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INTEGRATION OF INFORMATION FOR HOSPITAL RATE SETTING

VOLUME 15: IMPROVING THE INFORMATION FOR
HOSPITAL RATE SETTING

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SETTING

Final Report

This report was prepared under a contract between the Social Security Administration, HEW and the Harvard University Center for Community Health and Medical Care. The views and opinions expressed in the report are the contractor's and no endorsement by the Social Security Administration or HEW is intended or should be inferred. The project officer for this contract was William L. Damrosch, a staff member within the Division of Health Insurance Statistics, Office of Research and Statistics.

Under the HEW reorganization announced March 8, 1977 the Division of Health Insurance Studies has been transferred to the Health Care Financing Administration.

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INTRODUCTION

It appears to be only a question of time before some form of hospital rate setting becomes embodied in federal law. Provisions to this effect are part of almost every bill before Congress that attempts to curb rising hospital costs in the Medicare and Medicaid programs, or that sets forth a system of national health insurance. Rightly or wrongly, the belief is widely shared that external reviewers or regulatory bodies will be able to establish rates in a manner that will put the brakes on hospital cost increases while still ensuring that the public has access to good quality hospital care. Further, along with the planning and utilization review controls already specified in the 1972 amendments to the Social Security Act and in the National Health Planning and Resources Development Act of 1974, rate setting is seen as an instrument for arresting the seemingly inexorable rise of health care services as a percentage of the nation's gross national product--from 5.2 percent in 1969 to 8.3 in 1975.

However, the great expectations held out for hospital rate setting are not necessarily matched by programmatic capabilities for meeting them. It would be a highly complex and delicate task to set payment rates at the point where the nation's approximately 7,000 highly diverse hospitals would be neither overpaid, to the detriment of the public purse, nor underpaid, to the detriment of the public well-being. Although nine state governments have established some form of hospital rate setting or rate review procedure since 1969, and 22 Blue Cross plans now reimburse their member hospitals on the basis of prospectively determined rates or charges, the state of the art is still rudimentary. At best, results so far have been equivocal.¹

Progress in refining rate setting processes has been seriously impeded by the lack of good data on which to base rate setting decisions, to review hospital appeals for adjustments, and to evaluate program accomplishments. While good information will never be able to guarantee a good

rate setting process, poor information does guarantee a poor one.

In section 1533(d) of the Planning Act, P.L. 93-641, requiring the development of uniform accounting and reporting, Congress has sought to remedy one basic weakness in the information presently available for rate setting. As this report will show, various state commissions and Blue Cross plans are beginning to find ways around some other perhaps equally important barriers to securing and using necessary information of requisite quality. However, for the most part, Finagle's Laws on Information, as quoted by Jane Murnaghan still apply, namely:²

- the information you have is not what you want;
- the information you want is not what you need;
- the information you need is not what you can obtain.

In anticipation of the federal government's likely future involvement in this new form of regulatory activity, in February 1975 the Office of Research and Statistics of the Social Security Administration contracted with the Harvard Center for Community Health and Medical Care to identify the major types of information problems encountered by some of the ongoing rate setting programs and to report what is being done or what might be done to alleviate them.* The purpose was to explicate some of the issues involved in improving the information base for rate setting and program monitoring, and to make recommendations that might be useful to SSA or other agencies involved in writing regulations or specifying guidelines for possible future federal rate setting legislation.

For purposes of convenience we use the term "rate setting" here in the broadest sense, to include any means for determining the financial remuneration of hospitals whereby the amounts to be paid for specified units of service are established by some external authority prior to the period in which the services are to be given. This admittedly inadequate umbrella

* DHEW Contract #600-75-0142, Office of Research and Statistics, Social Security Administration.

term covers a wide diversity of programs, e.g., compulsory but non-binding budget reviews such as in Arizona; binding budget reviews such as in Rhode Island and many other Blue Cross plans; control of departmental rates such as in Washington; and of either routine care or inclusive per diem costs such as in the New York and Massachusetts Medicaid programs.

Under the contract terms, our final recommendations are related to two models specified by SSA. Under Model 1, SSA would be directly responsible for administering the program, as in the Medicare program, using intermediaries at state or regional levels for data processing, audits and payments to providers. Under Model 2, states would directly administer rate setting and payment (or themselves delegate some or all of these functions to intermediaries) under federal guidelines. This second model assumes that states would be free to choose their own rate setting methods, subject to the guidelines. In either case, the federal government would have responsibilities for program monitoring, using information generated either by the intermediaries or by the state. Legal authority governing the acquisition and form of the information under both models was assumed to stem from provisions of current laws, i.e., the Social Security Act as amended in P.L. 62-603 and related regulations, section 1533 of P.L. 93-641 together with recent laws relating to health statistics, P.L. 93-353, privacy, P.L. 93-579, and freedom of information (5 USC 552). Most state rate setting laws give broad authority for the collection of any information necessary to carry out the purposes of the programs; many require public disclosure.

As the reader will discover, under both models, the project has been concerned not only with hospital financial data, i.e., historical and projected costs and volumes of activity, but also with the linkage of such data with information on the service complexity of hospitals, their physician mix, their utilization patterns, the diagnostic and age characteristics of their patients, and with population-based statistics. Such linkages are essential to permit rate decisions that are equitable both to the public and to individual hospitals. They are also necessary if rate regulation is to function synergistically with planning, utilization

review and quality controls to increase the effectiveness of expenditures for hospital care while containing their rates of increase. Finally, linkages of these types of data are required to permit the evaluation of rate setting programs themselves.

Many of these types of data necessary for sophisticated rate setting and program monitoring can best be obtained directly in annual cost and/or budget submissions from hospitals. However, many others come from a variety of sources external to the rate bodies' own reporting system. Furthermore, the types of hospital data assembled for rate setting could be of great practical value to those concerned with shaping policies on the financing and distribution of health services, as well as those charged with specific responsibilities for decisionmaking in other types of health regulation, such as certificate of need. Thus, the many technical and organizational questions surrounding the management and integration of information were of salient interest.

Scope of Work Undertaken and Project Reports

The Harvard Center's contract with SSA specified three major work components. The first task, completed in the spring of 1975, was to develop criteria to guide the development of uniform reporting systems for hospital rate reviews. These criteria, made particularly timely by the section 1533(d) provision of P.L. 93-641, were drafted during the winter and spring of 1975 and, after several preliminary drafts had been circulated to selected rate setting agencies and hospital associations, received a final review at an invitational conference held later that summer. The criteria and the conference discussions, reported in a subsequent document, Uniform Reporting for Hospital Rate Reviews: Criteria to Guide Development and Proceedings of a 1975 Conference, are drawn on freely in this final report of the project. An appendix to this report lists the conference participants and gives a summary of their discussions.

The second component of the project was the planning and conduct of individual studies, reported in a series of working papers. Together they describe the nature of the information presently being employed for

rate setting in various locales, discuss other types of information that might improve the rate setting process, and consider various types of obstacles that rate setters and program evaluators currently encounter in securing data of the scope, quality and timeliness they require, and in making best use of the data they have. Several of these studies address either legal or organizational aspects of the perennial questions of: a) how to reduce the current costly duplication of data collected from hospitals, and b) what mechanisms might facilitate the process.

The studies and their resulting working papers are of two major types: those which analyzed the ways in which information is currently being used for rate setting and reimbursement, and those which looked at one aspect of some particular question relevant to the process of information integration and use. Five working papers describe and analyze the data systems and report forms currently used in rate review or rate setting programs in Arizona, Massachusetts, Maryland, New York, and Washington. In each case examination of reporting forms and other materials was supplemented by interviews with officials responsible for program administration and with representatives of hospital associations in the areas of their jurisdictions. In addition to the state analyses, thanks to the kind cooperation of the Ministry of Social Affairs of Quebec, we were able to study the various hospital information systems employed for setting rates under the universal hospital insurance program operating in that Canadian province. Finally, the extensive store of data routinely collected by the Social Security Administration was described and examined from the vantage point of its potential usefulness were Congress to mandate rate setting or monitoring responsibilities in future legislation.

The other group of studies examined a variety of special issues that influence the accessibility, quality and usefulness of information, i.e., systematic exchanges between rate setting and planning agencies; problems encountered in the transition to a new accounting and reporting system; the likely effect of state civil service on the quality of data analysis in state rate setting programs; legal problems of information sharing between PSROs and state rate setting bodies; parallels between

the information problems encountered by traditional public utility regulators and those encountered by hospital rate setters; and, finally, some of the potential uses of population-based data in hospital rate setting. Several of these studies employed the case method and were based on interviews conducted in California, Washington, Rhode Island, Maryland, Massachusetts, New York, and Connecticut.

The report draws heavily on the findings and observations from this series of working papers together with the reports from conferences and meetings. We urge the reader with a particular interest in any one of the special topics to refer back to the fuller exposition he will find in these papers, which are listed and summarized in Appendix A.

In addition to the field observations reported in the working papers, the project staff maintained informal contact with several other state and Blue Cross rate setting programs in an attempt to keep abreast of their changing data needs and their changing information capabilities. Finally, interviews were conducted with contractors on SSA evaluation studies of rate setting programs to learn the common problems they encountered with the data available to them for retrospective assessment of program impact on costs and quality of care. Assuming a federal-state relationship of either a Model 1 or Model 2 configuration, their experience has relevance to future attempts of the federal government to monitor the results of ongoing rate setting programs. Many of the observations in the report to follow are based on these other types of observations that do not appear in the working papers.

The final task of the project was to formulate recommendations that might be useful to people at federal and state levels of government charged with developing guidelines or regulations concerning information for hospital rate setting. These appear in the Summary and Conclusion Section of the report to follow. They incorporate a number of valuable suggestions by the project's Advisory Committee, which reviewed them in draft form at a two day meeting in Arlington, Virginia on 5-6 May 1976. The members of that committee are listed and the proceedings of the meeting are reported in Appendix B.

How the Report is Organized

The report is presented in several major parts, each of which contains a number of sections. Following the Summary and Conclusions, in Part I we first review the range of information that Blue Cross and state rate setting programs now employ; and then discuss what additional kinds of data appear to be required to meet new rate setting approaches they seem likely to develop in the future. Then, because the economic regulation of hospitals constitutes a relatively new intervention in a highly complex type of social organism, we next examine the nature of data available for monitoring the effects of rate setting programs, both in respect to achieving their cost containment and related objectives and also in respect to possible counterproductive responses such programs might inadvertently set in motion.

In Part II we describe some present shortcomings in the quality of the data available to rate setters that block their efforts to obtain valid comparisons of hospital efficiency as a basis for determining appropriate rates. We then discuss the potential for uniform reporting and accounting to improve this capability, together with more extensive auditing. Based on experience of hospitals and rate setting bodies that have already made the change to a new accounting and reporting system, we then review some of the many kinds of difficulties that must be anticipated in such a transition and some of the steps that might be taken to ease them.

Finally, in Part III we discuss the need for minimizing the expensive burden imposed on society by duplicative reporting of data from hospitals. We describe ways in which some states have already begun to address this problem, and propose a stronger role by the federal government in minimizing the need for wasteful redundancies in future data collections.

FOOTNOTES: INTRODUCTION

1. Clifton R. Gaus and Fred J. Hellinger, Division of Health Insurance Studies, Office of Research and Statistics, Social Security Administration, Results of Hospital Prospective Reimbursement in the United States, speech presented to the International Conference on Policies for the Containment of Health Care Costs and Expenditures, The John E. Fogarty International Center, Bethesda, Maryland, 3 June 1976.
2. Jane H. Murnaghan, "Health Information Systems in the United States Today," New England Journal of Medicine, Vol. 290, No. 11, March 14, 1974, pp. 603-610.

SUMMARY AND RECOMMENDATIONS

SUMMARY AND RECOMMENDATIONS

If Congress mandates some form of hospital rate setting, it will undoubtedly reflect a conviction that this new form of regulation will provide a brake on rising health care costs. As with other legislation designed for the same purpose, such as control of unnecessary utilization through PSROs and control of duplicative facilities and services through the structures developed under the National Health Planning and Resources Development Act of 1974, the success of the endeavor will depend on the actual manner of its execution.

To implement a rate setting process that will contain the nation's rate of spending for hospital care, while at the same time compensating fairly for the particular kinds of services each institution provides, is an ambitious undertaking. In the final analysis, it will require that external reviewers have the ability to distinguish between excess projected costs and legitimate projected costs in each of the nation's 7,000 hospitals.

It was not within the scope of this project to consider the important questions of who should make the rules and conduct the reviews for such an enterprise, or to calculate its likely costs and benefits. More narrowly, our concern was with the kind of information infrastructure that would be required to support such rate setting decisions under the two alternative structures set forth in our contract:

Model 1 - Federal responsibility for rate setting, using intermediaries for data collection, processing, etc.

Model 2 - State responsibility for rate setting, under federal guidelines and monitoring.

Under either model, successful accomplishment of the dual objectives of cost containment and equity would appear to demand:

- identification of likely sources of significant excess costs before the rate setting process is developed, so that review efforts can concentrate on areas of high potential savings;
- identification of performance standards by which to determine whether

a hospital's spending is reasonable in relation to the scope, intensity and quality of the services it renders appropriate to its patients' needs;

- identification, collection, analysis and proper use of reliable information with which to distinguish between justifiable costs, according to the above criteria.

As we examined the experience of most of the largest state and Blue Cross rate setting programs, it became apparent that no program can as yet claim to have more than partially met any one of these conditions. Their efforts to do so, the obstacles they have encountered, the information support systems they settled for, and their attempts to improve them do, however, provide useful lessons to be heeded in the development of any new national rate setting program. Besides looking at this experience, our project also examined the major potential sources of information for hospital rate setting that are now available to the federal government.

The Nature of the Problem

Most state and Blue Cross rate setting programs were established hastily, in response to some local fiscal crisis occasioned by rising expenditures for hospital care. Pressures to put the new program in place within an unrealistic time frame meant insufficient opportunity to pinpoint likely sources of significant excess costs and gear the program accordingly. Lack of specific cost containment objectives also reflects the general inability of rate setting programs to reconcile the variety of different overall purposes that governors, state legislatures, hospitals, third party payers and other organizations usually expect them to serve. Often these are in direct conflict, e.g., fair share payment by all payers versus savings to governmental payers. Directives in enabling laws and contracts are broad - usually phrased in terms of setting rates that are "reasonably related to the efficient production of services of good quality."

Given the special nature of the hospital industry, performance standards by which to determine efficiency are not easily devised. In the first place, the nation's hospitals are extraordinarily diverse, ranging from rural cottage hospitals to multi-function medical centers. In addition

to obvious differences in size and function, they care for patients with illnesses of different degrees of severity and complexity, bring to bear on their behalf types of manpower, services and equipment of different degrees of sophistication, and deploy these resources with different degrees of skill and efficacy. All these factors make it exceedingly difficult to define standard products required for efficiency measurement. Secondly, geographic location, union status, and a host of other variable factors in their environment mean that different hospitals must pay different wages and prices for identical kinds of goods and services, further complicating the task external reviewers face in judging what costs are reasonable for producing their ill-defined products.

Thus, rate setters need to obtain, and to know how to use, a very broad range of detailed data about each hospital, describing not only what it spends, but what it does and how well it does it. In addition, they need information to allow them to account fairly for many other factors that directly impact hospitals' financial requirements, e.g., bad debts and free care, state and federal licensing and accreditation requirements, teaching programs, donated funds and services, etc.

Because review of each individual hospital's expenditures and revenues in relation to its performance is time consuming, rate setting programs that cover large numbers of hospitals usually seek to shortcut the process by grouping hospitals of similar characteristics and performing various kinds of comparative analyses. The validity of any such analyses, and thus the credibility of the system, depend on:

- the homogeneity of the hospitals selected for comparison groups, and
- the comparability of the data reported by each of the hospitals.

Thus, not only must rate setters have access to a broad range of data, but also that data must be reported completely, accurately and in accord with commonly defined elements and categories if useful comparisons are to be made.

Finally, if rate setting is considered as part of a wider regulatory effort designed to bring about a more rational economical distribution of health services to the populations of given regions, the rate reviewer needs to interdigitate his information and decision making with that of PSROs and planning agencies.

In short, under either a Model 1 (federal) or Model 2 (state) option, timely access to appropriate information of good quality is essential if hospital rates are to be set equitably in a manner that is administratively feasible and that promotes the achievement of overall health system objectives. In its absence, several patently undesirable consequences are predictable:

- the rate setting process will either be arbitrary, or be inordinately complex and expensive - in either case opening the administering agency to justifiable criticism from providers and the public, expressed in appeals, litigation and political actions;
- some hospitals will be overpaid for the care they give; others will be underpaid;
- the potential of rate setting to improve the cost effectiveness of health care delivery will be lost. Worse, in efforts to simplify the process, rate setters may come to rely on some grossly inadequate hospital performance measures just because the data to construct them are easily available. Such action could serve to freeze in or exacerbate the inadequacies of present fragmented approaches to delivering health services. This, in turn, would prevent the cost savings possible from increased overall system efficiency.

Unfortunately, the information presently available to inform hospital rate setting decisions and to monitor the results of rate setting programs more often than not fails to meet the criteria of appropriateness, quality and timely access. Although masses of data are collected from hospitals by rate setting bodies, third party payers and other organizations, often they are not the kinds that are actually needed, are not comparable among hospitals, or are not disclosed.

Even when the right kind of data of the right quality are available, insufficiently developed analytic methodologies and/or staff and budget constraints may create barriers to their proper use. Finally, duplicative

data collection and processing of hospital data by rate setters, third party payers, licensing and planning agencies wastes scarce resources.

The section 1533 provisions of the 1974 National Health Planning and Resources Development Act that call for development of a uniform accounting and a uniform reporting system for health providers under federal programs mark an important step forward in addressing problems of data comparability. However, unless such systems are in fact implemented and the information support system is strengthened along several other dimensions, federally mandated hospital rate setting programs that rely on hospital cost comparisons may be fraught with so many difficulties that they might well prove counterproductive to the goal of cost containment.

Our recommendations will set forth various elements of an information base suitable for undergirding a future national rate setting program. These fall into several categories: the spectrum of information required for hospital rate setting and for monitoring, and the actual and potential sources of this information; necessary moves to improve the quality and comparability of hospital cost data; and means to derive more effective and economical use of the data that will be collected, so as to serve the needs of policymakers and planning bodies as well as rate setters. Each group of recommendations will be preceded by summary observations based on the project's studies of existing rate setting programs and analysis of presently available information that could be used under either a Model 1 or Model 2 rate program.

I. THE SPECTRUM OF INFORMATION REQUIRED AND ITS SOURCES

Experience in Current Rate Setting Programs

The first and soundest principle governing the collection of information is that it be tailored to the purposes for which it is to be used. This principle has not, so far, been well adhered to in existing rate setting programs. Since at their outset most of the programs were able to define their cost containment and rate setting objectives only in very broad terms,

they could not, and did not, specify clearly the information they needed to carry out these objectives.

Instead, for the most part, prospective rates are calculated from the same kinds of financial and service volume data that hospitals had already been accustomed to report as the basis for their former cost based reimbursement. The major change is the requirement by most programs that hospitals submit standard budget schedules along with their standard reports on historical costs.

The Medicare Cost Report as Prototype. Each rate setting program designs its own package of annual cost/budget forms and schedules (ranging from 35 to 182 pages in length). However, they all derive generically from the 40 page annual report that the Medicare program requires from each of its 6800 participating hospitals as the basis for final settlement of its reimbursement. The voluminous data on the Medicare cost report (MCR) were selected to permit identification of any costs now allowable under the program's principles of reimbursement and to permit proper separation of each hospital's allowable costs that are properly chargeable to Medicare from those chargeable to other third party payers. The report was never intended to provide a basis for comparison of the performance of different participating hospitals. While adopting this MCR model for their annual cost/budget submissions enabled the new rate setting programs to accumulate large volumes of data on hospital expenditures, revenues and volumes of service from each hospital with relative ease, these data were not necessarily suited to their new objectives of setting rates in accord with the efficient production of services of good quality.

Changing Perceptions of Data Needs. The rate setting programs we studied are, however, highly innovative. From year to year they sharpen their cost containment objectives and experiment with new methods both for identifying and controlling out of line or unnecessary costs. To support their rapidly evolving objectives and methodologies they are now calling for the collection and use of many new kinds of data, and fundamental changes in the way their basic cost and budget data are reported.

For example, far more attention is being paid to the cost impact of hospital building programs and new high technology medical programs than in the early 1970's when most of the rate setting programs were organized. Several programs now require hospitals to submit long term program and capital facility plans and budgets. Concern with excess costs stemming from redundant facilities and services is also growing. Several rate setting bodies are beginning to work closely with planning and certificate of need agencies to develop common policies and strategies to contain costs stemming from such factors. Under the impetus of the new planning law, interest in sharing hospital cost, facility, and program data appears to be mounting rapidly in rate setting states.

However, the major efforts of rate setting are still focused on the search for measures of hospital efficiency. Up to now, the prime emphasis in comparative analysis has been directed toward detecting inappropriate hospital input costs in relation to outputs, e.g., nursing manhours per patient day, costs per lab test, etc. This required even greater levels of detail on labor and supply expenditures, uniformly reported, with direct expenses matched to services by cost center. Averaging of costs among grouped hospitals yielded surrogate norms for what constituted efficient practice. In resulting appeals and legal challenges, hospitals point out that such analyses fail to take account of differences in patient mix and quality of care among the hospitals. Several rate setting programs are now beginning to address the difficult issues surrounding better definition of output - recognizing the inadequacies of traditional aggregate measures such as "patient day," "test," "visit," etc.

This interest is manifested in a new search for cost data that will reflect the degree of complexity of resources that hospitals employ, matched to the degree of complexity of patients' needs. A few programs are now beginning to seek full descriptions of hospitals' special services, specialist manpower, and data on patient diagnoses and principal procedures, and to explore the relationships of costs to service intensity according to patients' medical care needs. To obtain data about hospital patients, they must go beyond their own reporting packages and seek reports from uniform

hospital discharge abstract systems or claim forms. Beginning in 1977, several programs will be obtaining regular reports from abstract systems. Many are experimenting with relative value scales to account for differences in the complexity of laboratory and radiologic procedures. Some are also trying to develop more sensitive statistical bases for allocating indirect costs.

As yet, however, only a few programs have developed methods for identifying hospitals with sufficiently similar characteristics to permit valid comparative analysis. Problems lie with the identification and weighting of key variables. Except for patient casemix, most data are obtainable either from the hospitals' costs and budget reports or from planning agencies, U.S. census reports, etc.

To complete the spectrum of data used by rate setting programs, summarized in Exhibit A, federal and state government reports on movements of wages and prices have from the outset been used by most rate setting programs to project inflationary increases in hospital input costs. As with hospital classification schemes, programs vary considerably in the sophistication of the methodologies they employ.

Up to now, rate setting bodies have studiously avoided any recognition of excess hospital costs that may stem from unnecessary admissions, excessive lengths of stay or other manifestations of poor patient management. Although some programs are trying to establish relationships with PSROs, no mechanisms for regular information exchange have yet been developed.

Rationale for Information Choices for a National Program

The types of information in current use for state and regional hospital rate setting will profoundly influence the nature of any future information base for a Model 1 or Model 2 national rate setting program. However, it would be unfortunate if present practices, which are still very much in flux, should become frozen into a pattern that might constrict future development.

EXHIBIT A: SOURCES OF INFORMATION MOST FREQUENTLY USED
OR PLANNED FOR USE BY FIVE STATE AND REGIONAL PROGRAMS*

<u>Data Sources</u>	<u>Types of Data or Analyses</u>
<u>HOSPITALS:</u>	
- annual cost/budget reports to rate body	{ - financial statements - cost/revenues - volumes of service utilization and input statistics - operating budget - capital budget - bed complements, by service - special services, patient care and ancillary - education programs - physician staff characteristics - special items for use in constructing hospital groups, economic indicators
- certificate of need applications	{ - financial feasibility, cost estimates, etc.
- special surveys	{ - hospital service area
<u>FEDERAL AND STATE AGENCIES:</u>	
- U.S. government statistical series	{ - population characteristics - movements of wages and prices
- state government agency reports	{ - population characteristics - movements of wages and prices
- planning agencies	{ - population and population-related resource data
- certificate of need agencies	{ - supporting data submitted to justify community need for facility and service changes
- licensing agencies, JCAH, AMA	{ - licensing and accreditation status
<u>MISCELLANEOUS SPECIAL SOURCES:</u>	
- surveys and reports from private sector	{ - construction costs, special supply and maintenance costs, etc.
- special studies	{ - other detailed data <u>ad hoc</u>

* Not all these information types are used in every program. Quality (process) measures such as JCAH accreditation are used minimally. Sources: project working papers on information systems in Arizona, Maryland, Massachusetts, New York and Washington.

Should Congress mandate rate setting, it will at the same time establish rate setting objectives. For our present purposes we will assume that it will look to rate setting as one of a set of regulatory tools by which to control out of line increases in overall health costs without either diminishing patients' access to needed care or the quality and effectiveness of such care.

If hospital rate setting is to become part of a broad armamentarium of regulation with which to implement broad health policies for the nation, ideally, those who set hospital rates and those who monitor the results of rate setting programs should be able to relate hospital cost information to the medical needs and demographic characteristics of both the population and of the patients served; to the nature, volume and timeliness of the services provided; to the efficiency of the service delivery; to the quality of the product; and ultimately to the consequences to patients and community in terms of health, well being, and total expenditures. This calls for relating many different types of data derived from disparate sources.

As we move towards a framework that demands better allocation of resources for health within some limits on total expenditures, the public will presumably expect the rate setting and reimbursement mechanisms to be accountable for ensuring that the best value is obtained for the health dollar spent. Certainly the rate structure should not inadvertently encourage unwarranted hospital admissions, unnecessary medical procedures or excessive lengths of stay. Nor should hospital rates subsidize duplications in the community's acute care health facilities and programs beyond what its population actually requires. Conversely, the rate structure may be expected to provide incentives to create new lower cost components of the system, such as ambulatory and home care services if these are what patients need. Finally, it is essential that rate setting factor in quality and outcome measures to the extent that they exist, and as they become further developed. Costs per case of open heart surgery will certainly be lower in hospitals with a 55 percent case fatality rate than in those with a 20 percent rate, since lengths of stay will be shorter! Presumably no one would want a rate mechanism to reward such economies.

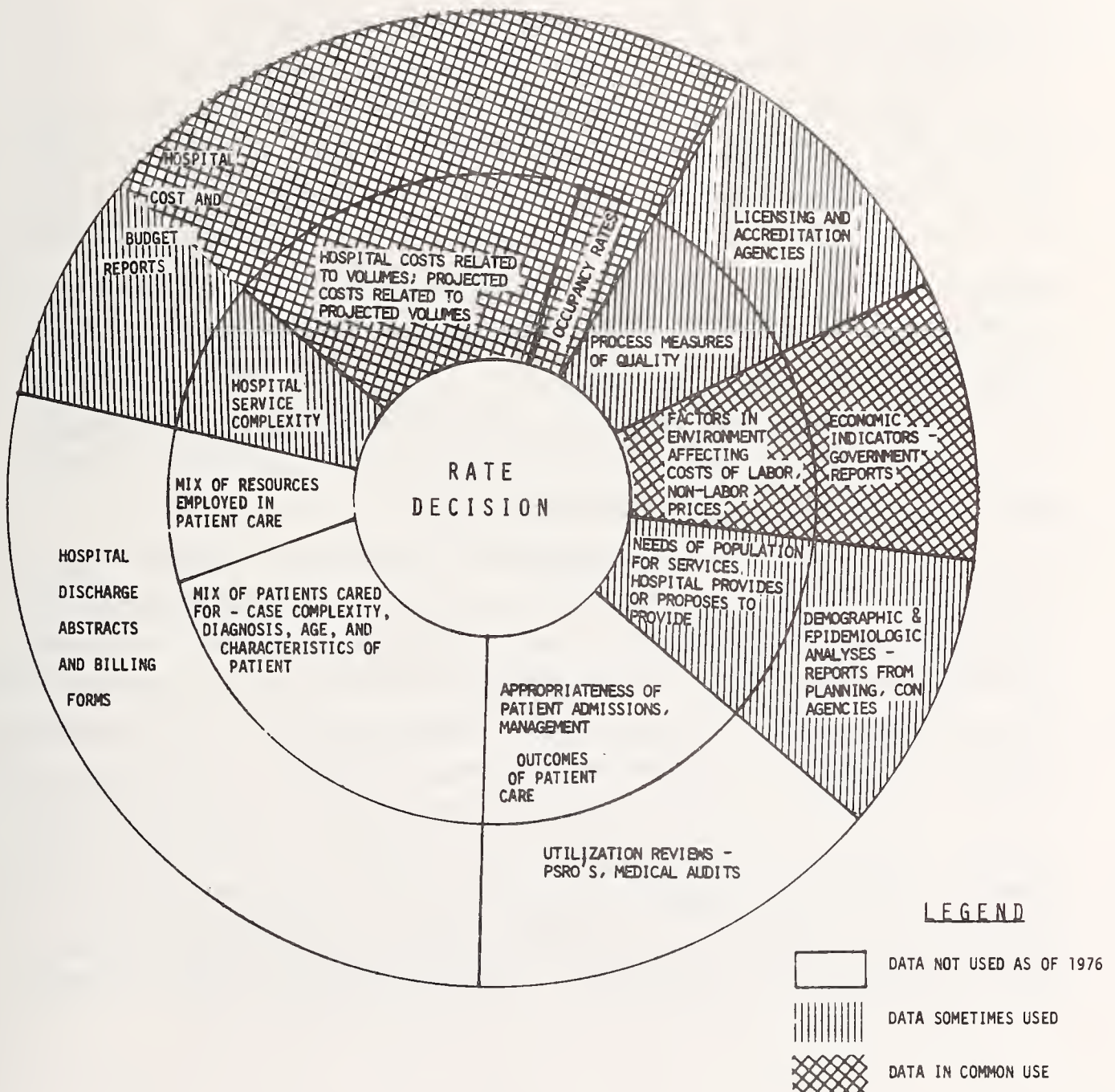
In short, an information bridge and coordinated policies between reimbursing, health planning, certificate of need, utilization review and quality monitoring organizations are essential if rates are to be used as a tool for encouraging broader types of change in the health care system that will lead to its greater overall efficiency and effectiveness.

Thus, although data on hospital costs and revenues are the starting point for rate setting, they must be supplemented by many other types of data - some collected by the program itself, some from a variety of other sources. As we have seen, many of these kinds of data are already being obtained and used by state and Blue Cross rate setting programs; others are not. However, almost all the needed information that is absent is already being collected by other organizations such as planning agencies and PSROs.

Chart 1 summarizes the range of information that might be appropriate to inform hospital rate decisions, and the extent to which current programs actually use them. The inner ring of the chart depicts the types of information; the outer ring indicates its sources. Shadings show the degree to which the information is presently used. It will be noted that almost all the needed information now absent is already being collected by other organizations.

The Medicare Cost Report Potential. Looking ahead to possible future rate setting responsibilities at the federal level, for Medicare and/or national health insurance, the Medicare cost report (MCR) is the only existing national source of cost data for individual hospitals. However, as already noted, it was not designed for hospital rate setting; as presently constituted it could not support a rate setting methodology requiring comparative analyses of hospitals. Some weaknesses lie in lack of timeliness and completeness, others stem from the fact that hospitals do not report their data in a standard fashion. However, were hospitals to report according to uniform definitions and reporting conventions, as we recommend in the next section, and if processing were to be speeded up to enable timely access and analysis, the MCR could be adapted to furnish the cost data component for Model 1 rate

CHART 1. RANGE AND SOURCES OF INFORMATION
FOR HOSPITAL RATE SETTING AND EXTENT OF PRESENT USE



setting.* Given the appropriate staff and computer resources, MCR cost data for each hospital could then be related to data on patient casemix, utilization, and service complexity, as well as to process measures of quality. All such related data are now available in existing Medicare program files, i.e., the Health Insurance Entitlement file, the Provider of Service file, the Utilization file. Some of them in a 20% sample are currently being linked for similar types of analyses to provide baseline reports, by area, to PSROs and HSAs.

Monitoring to Inform Policy. Whatever form of rate setting is mandated, it is essential to build in a capability for systematic monitoring to inform both policymakers and all the immediate actors concerned (government agencies, the public, hospitals, rate setting programs, third party payers, etc.) of changes taking place - whether desired or undesired - that appear to be associated with the new program and other regulatory measures. Again, hospital cost data would need to be related to trends in service complexity, patient casemix, utilization and quality of care for populations of given geographic areas.

Recent SSA sponsored evaluations of current rate setting programs encountered considerable difficulties in assembling these types of information, and could only do so at considerable expense.

The American Hospital Association National Hospital Panel Survey, recently expanded under an SSA contract, will soon enable a monitoring of the hospital economy at the state level. This will permit better tracing of the association of rate setting programs to changes in the financial status of hospitals and the intensity of their inputs, but will not measure changes over time in the nature and intensity of care delivered to patients with the same types of medical needs - a serious shortcoming if the object of rate

* Most of the items on the present MCR that might not be required for hospital rate setting would in any event have to be continued for purposes of Medicare cost finding for reimbursement, e.g., allocating certain types of costs among various payers. This type of detail would presumably not be needed under a universal national health insurance law.

setting programs is to encourage more efficient provision of services without diminution of their quality.

A more comprehensive monitoring system for the nation and its states could be obtained if MCRs were suitably modified and linked to other files. Routine abstraction and analysis of selected MCR items could be coordinated with analyses of utilization, service and quality. This could provide a valuable means for observing trends in hospital cost and utilization relationships in the Medicare enrollment population. Since it would not entail the collection of any new data, the only additional costs would be those required for analysis and dissemination of results. The same monitoring system could be used under a Model 2 rate setting program provided that each state's cost/budget package included all items of the MCR to be abstracted, and used standard definitions. This would constitute a uniform hospital cost data set (UHCDS).

The two most striking characteristics of the data base we have described are, first, the vastness of its scope and second, the negligible amount of data rate setters require over and above those which hospitals already furnish to third party payers, PSROs and other utilization reviewers, licensing and accreditation bodies, and certificate of need reviewers.

The range and types of information we have set forth would be equally necessary whether rates were to be established directly by the federal government under the Model 1 option, or by state governments under the Model 2 option. Under Model 1, however, the Secretary of Health, Education and Welfare would be responsible for specifying the full range of data to be used in rate setting, as he now does for Medicare reimbursement. Under Model 2, states would have latitude to specify their own data items over and above whatever minimum data requirements the Secretary might prescribe for purposes of monitoring and federal health program reimbursement, and in conformance with whatever uniform reporting system he might promulgate.

Recommendations for Types and Sources of Information

A. Information Needed for Rate Setting

1. The information systems and guidelines the federal government issues in regard to DHEW and state data collection and use under either Model 1 or 2 should be designed in the light of emerging coordinated health policy objectives for improving resource allocation for health. They should not be confined to the narrow objectives of hospital price and revenue control.
2. Those who set rates and those who monitor the effects of rate setting should be able to relate accurate and reliable data on individual or aggregated hospital dollar costs to:
 - scope of service the hospital(s) offer, including service complexity and physician specialist mix;
 - the burden of illness brought to the hospital(s) for care, e.g., diagnostic casemix, case complexity, patient age, income characteristics;
 - the nature, volumes and timeliness of services rendered;
 - prices the hospital(s) must pay for necessary labor and non-labor inputs;
 - the efficiency of the service delivery in terms of flexible staffing in relation to volume changes, internal management controls etc.;
 - the appropriateness of the patient care rendered in relation to patient needs and population needs;
 - the quality of care rendered;
 - duplications in facilities and services (especially high technology services) in hospital service areas or regions, and gaps in access;
 - the trends in per capita utilization and per capita expenditures for hospital services in the region, and their relation to total health care utilization and expenditures.
 - the outcomes to patients and populations in terms of health and well-being.

3. The particular data elements to be collected and analyzed should be selected in the light of specified cost containment and equity objectives. However, because the nature of the information perceived to be required for hospital rate setting and monitoring is changing rapidly, and is likely to continue to change in the future, the system should be designed to accommodate to such changes in a flexible manner.

B. Information for Monitoring

In order to monitor the overall effects of rate setting and related regulatory programs over time and in different parts of the nation, a specially constructed uniform hospital cost data set (UHCDS) should be abstracted from whatever annual cost/budget package is used for rate setting. When processed, it should be linked to patient data, hospital resource, and utilization files, and analyzed both in reference to populations of state and sub-state areas and in reference to populations enrolled in national health insurance programs.

Such analyses are essential to monitor progress towards goals of better cost effectiveness in the health care system, since they will show trends in national, state and local area expenditures related to utilization and resource use. As they are developed, relationships of these factors to indicators of health status and patient outcomes should also be analyzed.

The American Hospital Association's National Hospital Panel Survey already provides a means to monitor changes within the hospital industry itself.

C. Sources of the Information

1. Data for hospital rate setting and monitoring can for the most part be drawn from existing sources:
 - The Medicare cost report is the only existing source of cost data for virtually all the nation's hospitals. Hospitals are accustomed to using it and must continue to do so in the future for purposes of Medicare reimbursement. Linked with a corresponding standard prospective budget, it could be adapted for rate setting purposes under the Model 1 option. However, were it to be used as a basis for comparative analysis, solutions would have to be found to present problems of data unreliability. The timeliness of its processing and analysis would have to be vastly improved;
 - Were a national health insurance law also to be enacted with universal coverage and a single payer, the necessity for the present mass of detail on the Medicare cost reports should be reevaluated;
 - Under a Model 2 rate setting program, or under waivers of a Model 1 program, states should have latitude to use their own cost/budget reports provided that they contain whatever standard items the Secretary of DHEW might prescribe for purposes of reimbursement for care of persons entitled to receive services under federal programs and data required for monitoring;
 - Patient data should routinely be obtained from uniform hospital discharge abstract systems or claims files to allow rate setting decisions under either the Model 1 or Model 2 structure to take account of the relation of cost to differences in the burden of illness brought to different hospitals, and changes in the same hospital over time;
 - Planning and certificate of need data should be obtained from appropriate agencies to aid the formulation of coordinated policies within which rate setting decisions should be made;

- Organizations such as PSROs and accrediting agencies responsible for decisions on the appropriateness and quality of services rendered to patients should share hospital performance profiles with rate setting bodies in order that rates take cognizance of differences in quality.

D. Improving Methodologies

1. To improve methodologies in preparation for a national rate setting program, further research and testing are needed in the following areas:

- improving economic projections for small geographic areas to make allowances in hospitals' rates that take proper account of inflation. This may call for larger sample sizes for Bureau of Labor Statistics wage and salary surveys, as well as for the identification of better proxy measures for hospital labor and supply inputs;
- achieving more homogeneity among the hospital groups used for comparative analyses. Development of a methodology that would permit inclusion of casemix and other patient variables should be encouraged;
- exploring further the complex relationship of cost to the nature, quality, intensity and appropriateness of services rendered to patients with given classes of medical needs or requirements for care;
- a major developmental effort is required to refine statistical measures of hospital activity that will permit development of realistic performance standards.

The task should be approached incrementally, first focusing on areas of largest cost impact, i.e., constructing better relative value scales for laboratory and radiology, and developing such scales for nursing;

- a similar effort is required to identify better measures for cost allocation.

II. MORE RELIABLE DATA THROUGH UNIFORM ACCOUNTING AND AUDIT

If external reviewers under either the Model 1 or Model 2 structure are to depend on comparative analysis of hospital performance as a basis for establishing rates, the data from each of the hospitals must be truly comparable. Otherwise, the exercise will either be meaningless or dangerous. Just as decisions based on too narrow a scope of data may be reflected in overpayment to some hospitals for the type and quality of care they render to patients, and in underpayments to others, so too with decisions based on unreliable data.

To achieve comparability requires that each of the hospitals must define the items to be reported and the reporting categories in the same way, and follow the same conventions for assigning costs and activities to the common categories. In addition, the required data must be reported both completely and accurately. These principles apply to all types of hospital data (uniform discharge abstract data, AHA Survey, etc.), but only hospital cost data will be discussed here.

Existing rate setting programs appear to vary considerably in the extent to which their reports yield data that meet standards of comparability, completeness and accuracy. Requiring hospitals to report on standard forms is only a first step. Sophisticated uniform accounting and reporting systems must provide a common language and a common means of communication; auditing must ensure that the staff in hospitals who record and report the data understand and abide by the prescribed conventions, and furnish correct figures.

Present Weaknesses in the Quality of Data Reported

Researchers and analysts who work with both the Medicare cost reports and the cost/budget reports used for rate setting find that hospitals usually report the dollars they spend and receive completely and well, but that they report the other half of the cost equations - their input and output statistics - quite unevenly.

Inconsistencies of definition are one major source of unreliability. For example, unless the instructions that accompany the forms are highly specific, reasonable people can and do differ their interpretations of what may constitute "major" versus "minor" equipment, "short term" versus "long term" loans, etc. The completeness and accuracy with which particular measures of activity are reported also leave much to be desired. Even the basic denominator of all inpatient cost comparisons, a hospital's bed complement, is not always reported consistently.

The most pervasive obstacle to valid inter-hospital comparisons, however, is the fact that hospitals must categorize their accounts in different ways for their own internal control purposes in order to ensure that their department heads can be accountable for the spending decisions they make. Since hospitals vary greatly in their organizational structures, operating policies and practices, as well as in their scope of services, their internal information systems naturally must reflect these differences. One hospital, for example, may maintain a separately organized blood bank. In another, blood bank activities may be assigned to the department responsible for laboratory operations. If rate setters are to make valid cost comparisons, differences such as these must be reconciled through accounts that report on common functional cost centers to which commonly agreed upon activities are always assigned. The problem becomes how to meet the information needs both of internal hospital managers for responsibility accounting and those of external reviewers for functional accounting. The most expeditious and least duplicative and least costly vehicle for accomplishing this purpose is a uniform reporting system backed by a uniform chart of accounts. Coding of the accounts on the chart permits information to be generated both according to responsibility and functional cost centers.*

* A chart of accounts is defined as a listing of account titles with numerical symbols designed for the compiling of financial data.

Uniform Accounting and Reporting

Almost all state and Blue Cross rate setting programs require hospitals to organize their data according to some prescribed standard chart of accounts for reporting purposes, and design their cost/budget forms and schedules accordingly. For the most part, they employ an edition of the American Hospital Association's chart that was developed over many years, primarily to support hospitals' needs for internal management controls. Although the 1976 AHA chart is linked to a newly developed uniform reporting system designed to meet the needs of external reviewers for functional accounting, it was not available to the rate setting programs organized earlier in the decade.

As a result, certain of the state programs that planned to rely heavily on interhospital comparisons adopted a new uniform chart of accounts and a linked uniform reporting system developed by the California Hospital Association in 1973. The system is now in place in Washington and California, and will soon be implemented in Arizona. The needs of both hospital managers and external reviewers are met through its ample coding system. Definitions of terms and categories are full and explicit, as are directions as to where to assign particular costs.

Transition to a New Uniform Accounting and Reporting System

The Congressional mandate to develop a uniform chart of accounts and a uniform reporting system for providers of health services in section 1533 does not include a requirement that these new systems be adopted. However, it may be assumed that they would be prescribed to support any new national rate setting program. The experience of the hospitals and hospital commissions in the states of California and Washington in making the transition to the new California accounting and reporting systems provides some important caveats to be heeded in any future nationwide transition. These are reflected in certain recommendations at the end of this section, presented in greater detail in the project's full report.

Many kinds of organizational, technical and communication problems were encountered. First, since most hospitals formerly used the AHA chart, their computers were programmed to its numbering system. Changeover to a new numbering system imposed new costs and severe work burdens. Second, many hospitals in both states had problems with compliance due to special reasons associated with their ownership and control. Government hospitals, by law, must follow other prescribed accounting systems; religious orders and for-profit chains often have their own systems that apply nationwide.

Third, a great many difficult technical problems had to be resolved, such as whether there should be a common reporting period (given the fact that hospitals often operate according to different fiscal years); choice of and number of accounts required to be reported by small hospitals, etc. Fourth, hospital personnel had to be instructed in the details of how to use the new systems, as did the accounting and computer firms that serve the hospitals.

After observing this experience, we conclude that if sufficient thought is not given to the preparation for transition to a new national uniform accounting and uniform reporting system for hospitals, difficulties in implementation could very well exacerbate rather than alleviate current problems of data unreliability.

Nevertheless, despite all such problems, if a national rate setting program becomes law, a single national uniform system of accounting and reporting would seem to be essential, assuming a rate setting method based on comparative performance. Under a Model 1 structure the need is obvious. Under a Model 2 structure, states might argue for local options in choice of their uniform system. Under some circumstances waivers might be appropriate, particularly for states that have already gone through the expense and tribulations of change. However, the hospitals in most states would have to endure the troubles of transition, no matter what uniform system their state programs decided to adopt. Furthermore, if federal guidelines required the reporting of the minimum cost data set we have recommended for program monitoring, these items, at least, would have to conform to defini-

tions that applied nationwide. Thus, there appear to be no advantages to be gained from multiple state accounting and reporting systems. If federal guidelines permit them, the advantages of nationwide comparable data would be considerably diminished, if not entirely sacrificed.

In short, a universal hospital accounting and reporting system is necessary to support a national program of rate setting under either Model 1 or 2. However, considerable resources must be committed to the processes of its design, pretesting and implementation if it is to achieve its intended purposes of improving the reliability of the data hospitals report.

Auditing

Many of the problems we have noted in connection with the completeness and accuracy with which hospital statistics are reported stem from inadequate resources for auditing. With present limited funds, attention is usually focused on the accuracy of the financial reporting and, for Medicare cost reports, on those statistics that figure importantly in cost finding calculations.

Most state rate setting programs are severely restricted in funds for audit compared to recognized need. Some do not even have the capacity for systematic desk reviews of the cost/budget reports their hospitals submit. Blue Cross programs appear to fare somewhat better. A few programs, where the third party payers and the rate setting program have joined forces to support a combined audit, claim to be fairly satisfied with the quality of the checks they are able to make on the data reported. However, this pooling of effort is only possible when a combined report form is used - a question discussed in the following section.

During the first few years of a new national rate setting program, very extensive auditing is called for, particularly if a new system of uniform accounting and uniform reporting is promulgated. If the data to be generated are to be of the quality to permit valid analysis by rate reviewers, frequent direct contacts with hospital personnel are essential to ensure

that transactions are being properly recorded at the source and that the principles and practices of the system are understood and followed.

Recommendations to Improve the Reliability of the Data Reported

A. Uniform Accounting and Uniform Reporting

1. Under either a Model 1 or Model 2 national rate setting structure, all hospitals should keep their books according to the same chart of accounts, and a uniform reporting system should be designed in conformity with this chart. Uniform reporting is meaningless without uniform accounting.

In order to promote the comparability of the reported data:

- the classification scheme and the coding system must be standard for all hospitals;
 - definitions of functional activity centers, natural expense items and units of measure must be standard for all hospitals;
 - all transactions must be reported according to standard conventions, and should be recorded as close to the time they are made as possible.
2. The accounting and reporting system should be designed to be useful both to hospital managers for internal control and to external bodies for comparative reviews.

An ample coding system is needed. The hospitals' records should identify transactions so that they can be reported on the bases of:
 - responsibility (for internal management);
 - function (for inter-hospital comparisons by activity);
 - natural expense categories of salaries and supply items (for internal and external comparisons).
 3. Definitions of data items already standardized in existing reporting systems should be employed. Where conflicts exist, definitions in the minimum data sets prescribed by the Secretary of DHEW should prevail.

4. Data should be reported in a modular format that permits hierarchical aggregation for special purpose reports.

Multiple users of the reports will have widely differing needs for level of detail about hospital statistics and costs. The reporting system should be ordered so that different levels of information can be produced in reports tailored to their particular needs. These should supplement each other, not duplicate. This calls for basic forms supplemented by special schedules, and requires plentiful codings on the original report documents.

5. The data system should be cost effective. It is counterproductive to spend dollars in data collection and processing to save pennies in hospital rate reviews. Similarly, it is counterproductive to forego dollars of possible savings because of a failure to provide the level of budget needed to design, test and carefully implement a good information system.

6. Hospital reports should include all internal data items needed to implement the particular rate setting and reimbursement program in effect, e.g.:

- if hospital grouping is employed, the reports should include all internal items required to assign the individual hospital to its appropriate group and to monitor the continued appropriateness of this placement over time;
- if an economic projection index is used, the internal data items in the reports should also conform precisely to any items selected for the construction of the index.

7. Revenues and expenses should be reported juxtaposed in each functional center. Matching revenues with expense in each activity center reveals the extent and nature of cross-subsidization and also the share of hospital financial requirements met by various classes of payers.

B. Design and Implementation of New Systems

1. A new uniform accounting and uniform reporting system should be developed with the guidance of a suitably staffed technical advisory committee which brings together the expertise of the major users and contributors of the data. This group should be independent of any parallel committee concerned with rate setting policy determination.

Examples of organizational membership include: rate setting programs, third party payers, hospital associations, the Hospital Financial Management Association.

The acceptability, timeliness and reliability of the reporting system will be increased to the extent that hospital representatives, in particular, have opportunities to provide input into detailed design and formatting, since hospital personnel must supply the data.

While recognizing the skills that can be brought to bear through contracts with accounting firms to design new systems, the needs of rate setters, hospitals and other users must be kept paramount. Final decision making authority must rest with the rate setting body.

2. The adoption of any new chart of accounts or reporting system should be approached in an experimental mode, building on evaluation and feedback.

Specifically, before adopting any new form it should be:

- reviewed by major users and providers of the data;
- pilot tested with a carefully drawn sample of hospitals and revised according to the results.

3. Three or four years should probably be allowed to implement a system that requires a new:

- chart of accounts;
- uniform reporting system;
- uniform budget.

There should be mutual tolerance by hospitals and rate setting bodies of the inevitable difficulties that will be encountered during this period.

4. Adequate funds must be allotted for training programs directed at hospital controllers, accountants and department heads.

Special training in how to use the new reporting system is essential to ensure accurate data entries. This requires:

- staffing that is adequate both in numbers and skills;
- development of manuals and programmed teaching aids.

5. In the first year of the system's implementation (and perhaps always for primary care hospitals) reporting of only the key elements comprising the framework of the data set should be required.

This will avoid data overload on all parties. More detail about each component can be phased in year by year as experience of need dictates.

However, the full report form, the desired end result, should be available to hospitals at the outset to facilitate the adjustment process. While the rate setting body should be able to require more detail about particular components from individual hospitals at any time, they must recognize that special data demands add to hospital costs.

6. An in-depth study should be conducted to evaluate differences in quality of the data now reported by hospitals in Washington and California related to the manner in which the new accounting and reporting systems were introduced and the data used. Since

the systems were virtually identical, conditions of a natural experiment were present. Analysis of results should guide plans for transition to a new national system.

C. Audit

1. Data reported from hospitals should be subject to complete external audit during the first three years of the program. Later, limited scope or sample audits may suffice, as with the IRS.

Inaccuracies are to be expected in any new system of reporting. It is important to correct them, as these first reports will become the historical base for all later trend analyses and exception reviews.

2. Audit of hospital statistics and of a hospital's internal reporting processes is fully as necessary as audit of its dollar income and expenditures.
3. There should be a single external audit to serve the needs of rate setters and all third party payers. A single audit saves money, time and effort.
4. The auditors' reports should themselves be subject to audit, and the results made public. Alternatively, only firms certified by the AICPA might be employed. (AICPA review teams conduct routine quality checks on such firms.)
5. Federal guidelines under either Model 1 or 2 should clearly specify the auditing functions and the frequency and character of audits.

SECTION III. ECONOMICAL DATA COLLECTION, ACCESS AND USE

The collection of data from and about hospitals is in itself a not inconsiderable charge against the health care dollar. Striving for more cost effective use of information resources is as important as striving for cost effectiveness in any other component of health spending. Some approaches include: reducing waste in the collection and management of hospital cost data; improving the ability of rate setters to obtain needed information from other agencies that is not presently forthcoming; improving their capabilities for analyzing the data they have; and finally, using such analyses more effectively to influence cost behavior in hospitals.

Duplicative Collection of Hospital Cost Data

In addition to the voluminous cost/budget packages of forms and schedules that hospitals are required to submit to existing rate setting programs, they must also furnish large portions of this same data to Medicare for its cost reports, Blue Cross plans for their cost reports, licensing agencies for their facility and services reports, and so forth. Much of the data are the same, but each external reviewer employs different forms and defines and categorizes the data in somewhat different ways. Furthermore, different cost reports may employ different units of measure that require the hospital to use different methods of recording its activities, such as counts of surgical procedures in one report versus operating room minutes in another.

Besides the increased clerical and computer costs required at the hospital level to satisfy these data demands, each of the various collecting agencies requires its own staff or staff time, for editing, auditing and processing the duplicative data it receives. Surprisingly, the amount of extra expense attached to such uncoordinated activities, projected nationwide, has not been calculated. It is undoubtedly very high, and constitutes a readily identifiable source of excess costs that could be reduced without affecting patient care.

Savings can be effected through common data collection and processing arrangements. In New York State, a single hospital financial report and a single hospital statistical report yield all the data routinely used for rate setting, Medicare reimbursement, Medicaid reimbursement, Blue Cross reimbursement, and licensing, as well as most of the information infrastructure for planning. One user organization, Blue Cross-Blue Shield of Greater New York, performs the clerical, auditing and computer functions for all other users on a cost sharing basis.

Under a Model 1 rate setting structure, if the Medicare cost report remains the principal vehicle for hospital cost data collection, at a minimum it should also serve the purposes of reimbursement for all patients covered by federal programs. The goal of report consolidation should also be pursued in federal guidelines for a Model 2 structure. Other hospital data users should be encouraged to join the effort. Often the addition of only a few new data items on one existing form can obviate the need for an entirely separate data collection.

Access by Rate Setters to Information From Other Agencies

As we saw in Section 1, in order to make equitable decisions based on the comparative performance of hospitals related to their costs, rate setters need access to information from secondary sources that delineates differences in hospitals' patient casemix, case complexity, service intensity, and quality of care. Much of this information is already collected in the minimum uniform hospital discharge data set that PSROs are required to obtain on all patients paid for through federal programs, and the type of aggregated reports that rate setters need must be transmitted to the Bureau of Quality Assurance. The question of sharing such reports among agencies within DHEW seems to be resolving itself. However, the authority of state rate setting bodies to obtain reports from PSROs is still unclear, possibly creating obstacles to access under a Model 2 structure.

Rate setting bodies have not yet, to our knowledge, made serious attempts to obtain information that systematically relates hospital costs to

quality of patient care. For example, the excess costs that may derive from iatrogenic illness are never explored.

The issues that surround disclosure of information about the quality of care in different services of different hospitals presently collected by medical audit teams of various review organizations are exceedingly complex. Insofar as the Freedom of Information Act and state public disclosure laws might require rate setting bodies to make public any reports they might receive on individual hospitals under Model 1 or Model 2 structures, strong incentives might be generated within some hospitals to keep unfavorable data from ever entering the original source record. This would defeat current efforts to improve performance. Yet in the absence of quality of care indicators, the rate setting process may inadvertently subsidize poor care and penalize good care. While there are no easy ways around this dilemma, rate setters should try to make common cause with leaders in the medical profession and in the hospital industry to devise some acceptable means of linking hospital rate setting with a quality monitoring system.

Constraints on Ability to Analyze Available Data

Even if the right types of data of adequate quality are collected in a timely fashion for rate decision making, the entire investment will pay off only to the extent that these data are properly analyzed and used. In most of the existing rate setting programs, the lion's share of attention, so far, has been devoted to the collection of the data rather than to planning for its analysis. As we saw in Section I, instead of deciding in advance what reports they wished to generate from their data systems in order to begin to control the largest sources of excess costs and to compare hospital performance, most existing programs reversed the process. Analyses were planned only after the hospitals' completed cost/budget package of schedules began to come back to the reviewers. Such absence of forethought, though explainable by the time pressures under which most programs began operations, has undoubtedly led to the expensive collection of many data items that so far have not been used.

When a new data system is created, it must be designed to accommodate flexibly the predictably changing needs of future rate setting analysts. Thus, the framework of any new uniform accounting and reporting system designed to support a national rate setting program should provide the capability to secure information from hospitals at different levels of detail in different years. Within this framework, however, economies could be effected and information overload avoided if, for any given year, the data to be routinely collected were confined to those which were going to be routinely analyzed. At the same time, the forms and schedules hospitals receive annually should to the extent possible lay out the kinds of detail that might be required in the future, even when the items are not presently required. Hospitals, using the uniform chart of accounts, could keep their books accordingly. Providing extra detail as needed, either ad hoc for more in-depth scrutiny during the rate setting process, or routinely in future collections, should then impose no special hardship or expense. The Washington State program has pioneered in this direction.

The kinds of professional personnel available to perform and interpret analyses of hospital performance ultimately determine the extent to which investment in data collection or processing can pay off. Exploring the complex relationships between hospitals' costs and their performance is a challenging and necessary endeavor, but one for which analytic methodologies are only beginning to be developed. State rate setting programs are handicapped by limited budgets and civil service system rules and regulations that severely limit their ability to attract research and analysis staff capable of pushing forward along these frontiers. Blue Cross rate setting programs do not labor under the same types of personnel system constraints, and can offer more realistic salaries. This may in part explain the innovative approaches developed by some of these programs, such as those in Western Pennsylvania and Rhode Island.

In some states, symbiotic relationships have developed between state government and Blue Cross, whereby the advantages of the state's legal authority to collect data and establish rates have been combined with the Blue Cross plan's flexibility in the kinds of research and analytic staff they

can employ. Massachusetts provides an example. Under a Model 1 rate setting structure, the federal government could take advantage of these possibilities through agreements with intermediaries. Guidelines for a Model 2 structure should permit state governments, also, to take advantage of such opportunities. In addition, federally funded in-service training programs and other means to upgrade the quality of data analysis in state programs could assist state programs in making the best use of whatever personnel they are able to obtain.

Using Comparative Analyses to Influence Actions Within Hospitals

If one overall purpose of rate setting is to effect desired changes in particular types of hospital behavior that lead to excess costs, valid analyses of hospital performance, properly used, could provide an important lever.

Armed with comparative analyses of patient care service costs derived from functional reporting systems, comparative casemix profiles related to these costs, documentation of departmental cross subsidization and similar reports that the rate setting body may provide, trustees could, if so motivated, give more informed direction to their institutions in areas of potential cost control. In particular, such externally produced comparative analyses could give both trustees and administrators a powerful tool to force priority decisionmaking within their medical staffs. Often they already know that this is necessary and desirable, but they rarely have the power to set such processes in motion. Rate setting bodies, especially if they have disclosure powers, can provide convenient scapegoats. However, the rate setters' ability to motivate hospital trustees to move towards cost containment rather than to adopt adversary positions depends on their own sensitivity to forces within the hospital environment and physician community that normally serve to block such moves.

Few existing rate setting programs can as yet produce the kinds of valid analyses necessary to accomplish such purposes. However, the emerging experience of western states using performance profiles produced from their new accounting and reporting systems, and the use of the patient casemix analyses now planned in the Maryland and New Jersey programs can be expected

to break new ground. In preparation for either a Model 1 or Model 2 national rate setting program, special efforts should be directed at learning effective ways in which to employ comparative analyses at the hospital decision making level.

Recommendations for More Economical Data Collection, Access and Use

A. Reducing Duplicative Data Collection and Processing

1. To minimize the expense associated with multiple reporting demands on hospitals for data that are to a large extent duplicative, the hospital cost/budget package(s) for hospital rate setting under the Model 1 or Model 2 structures should be designed to meet the data needs of multiple users.

These would include, at a minimum:

- the rate setting program itself;
- third party payers;
- licensing bodies;
- banks and bonding authorities;
- planning agencies;
- the public.

2. A single organization within stated geographic areas - states or regions - should be designated to collect, edit and process the data.

Under a Model 1 structure, the fiscal intermediaries would carry out such functions. Under a Model 2 structure, federal guidelines should also permit state governments to engage intermediaries to perform these functions.

3. Choice of intermediaries to perform these functions should be guided by the following criteria:
 - cost effectiveness - whether or not a given processor is likely to perform efficiently and economically;

- operational feasibility - whether or not the organization has the immediate capability to do the work;
- acceptability of the processor to the users.

B. Improving Access to Needed Information

1. Sharing of information created from data collection supported by federal funds should be explicitly mandated in the law authorizing the establishment of a national rate setting program. Reports should be based on statistical aggregations that preserve privacy of individual patient records but which permit analysis at the individual hospital level.
2. In the absence of such a law, specific working agreements on information exchange should be developed among the regulatory agencies at both federal and state levels, modeled on the National Center for Health Statistics/Bureau of Health Planning and Resource Development work plan. Agencies that operate cooperative health statistics systems could serve as information brokers at the state level.
3. The question of how to include information on quality of care obtained from medical audits in the rate setting decision-making process poses difficult dilemmas. Agencies within DHEW responsible for quality assurance and reimbursement should jointly engage medical and hospital leadership in systematic attempts to find acceptable ways around them.

C. Improving the Cost Effectiveness of Analysis

1. Decisions on the number of data items to be processed should be guided by realistic estimates of the staff, budget and time available for making the analyses.
2. The cost of payroll and supplies attributable to each functional activity center should be analyzed separately prior to the allocation of the costs on non-revenue producing centers.

Analysis of direct costs is necessary if valid comparisons are to be made of the efficiency with which both patient care and administrative and support services are provided in different hospitals. Casemix and service intensity variables should be tied into such analyses.

3. Since under a Model 2 structure, state budget and civil service constraints may reduce the organizational capabilities of state rate setting bodies to plan and execute analyses of necessary sophistication, federal guidelines should enable states to enter into contractual arrangements with organizations equipped to supply needed personnel or services.

Other approaches to the problem include:

- technical assistance programs to upgrade the skills of state civil service staff;
- direct federal financial support for research positions in state rate setting bodies;
- interagency staff planning for analyses of specific cost problem areas, such as excessive lengths of stay, certificate of need applications, etc.

4. Under a Model 2 structure, the Social Security Administration should be responsible for disseminating to the state rate setting programs any new analytic methodologies that permit more refined measurement of comparative hospital cost performance. It should also provide regular opportunities for key staff of these programs to share experiences in their use of innovative methodologies.

D. Use of the Analyses to Change Hospital Behavior

1. Well presented comparative analyses may be used in efforts to influence hospital trustees and administrators to take actions that might contain excess costs, but several conditions must be met:

- the particular norms must be clearly specified, so that the hospital can recognize where its own performance is out of line;
- the analyses are brought to the attention of the particular individuals or class of individuals within the hospital who are responsible for the cost aberrancy.

However, where the source data from hospitals are not truly comparable and where a crude hospital grouping system yields comparison groups composed of unlike hospitals, such exercises only waste the time and resources of all parties concerned.

2. Public disclosure of valid comparative analyses can be a powerful motivator of change.
3. Studies should be conducted of ways in which information from external reviewers can be used most successfully with the hospital environment to modify the attitudes and behavior of the most influential decisionmakers - the physician staff.

IV. ACCESS TO HOSPITAL COST DATA BY POLICYMAKERS, OTHER REGULATORS AND HEALTH PROGRAM PLANNERS THROUGH A UNIFORM DATA SET

The savings that might be accomplished by rate setting programs and third party payers cooperating in joint data collection efforts, though sizable are probably minuscule compared to those that could be effected if policymakers, health program planners and all health regulatory agencies at federal and state levels of government had timely access to the information they need about hospital costs. Today's widespread concern for getting the best value for the health dollars spent has generated a corresponding demand for cost impact and cost benefit analyses to inform both the drafting of new legislation and the carrying out of activities under the new planning law. Yet very little timely data on hospital costs are now available from which to derive such analyses. In addition, the expertise with which to use hospital cost data, especially at the state level, is in short supply.

Providing a mechanism to meet such needs should be an essential element in planning an information system to support a national rate setting program. The minimum set of hospital cost data we recommend be abstracted from each hospital's annual cost/budget report could be organized and disseminated in a manner that would also serve these wider needs of health policymakers, at very little additional cost.

The enterprise would require:

- an orderly means for identifying the particular data items to constitute a minimum uniform hospital cost data set (UHCDS);
- a procedure for timely abstraction and processing of the items from hospitals' annual rate setting report submissions;
- routing of the data to agencies responsible for the analysis and dissemination of information;
- technical assistance programs for cost data users.

The principal costs entailed would be for analysis and dissemination of the information, and for technical assistance.

The basic minimum uniform hospital cost data set, designed to serve multiple users, would be spun off from the hospitals' annual cost/budget submissions for rate setting. No special problems should be encountered in obtaining standard items, if other recommendations from this project are followed. Under a Model 1 structure, all the items hospitals report would, in any event, be standard nationwide, as in the present Medicare cost report. However, comparability would be assured through the new uniform accounting and reporting system. Under a Model 2 structure, states would also provide the set of items required for federal program monitoring in standardized fashion.

The agency with prime interest in the quality and use of items abstracted for rate setting program monitoring, presumably the Social Security Administration, should be responsible for the supervision of their abstracting and processing. However, it would be unreasonable to expect SSA or any other operating agency to assume the burden of distributing UHCDS data to the other potential users. A solution would be to have the intermediaries

(under Model 2) abstract and process the items and send tapes both to SSA for its own purposes and to the National Center for Health Statistics for analysis and dissemination of information to other users.

The timeliness of the UHCDS data is much more important than its complete dollar/statistic accuracy. Thus, the abstracting by the intermediary or state agency should be done at the point immediately following receipt and desk audit of the hospitals' cost/budget packages, preceding full audit.

In the design of minimum data sets to serve the varied purposes of many users, questions surrounding the proper identification of the particular items to be included become crucial. The data priorities of health planners, quality assurance agencies, and non-governmental users might be quite different from those of SSA. The more closely the various potential users are involved in selecting the items to be included in the UHCDS, the more likely it is to accomplish their purposes. Thus, although SSA must have final say in the design, and might usefully impose a limit to the total number of items that it could feasibly be responsible for processing, a broad spectrum of users need to be systematically consulted. These should include staff from the several other DHEW bureaus and divisions that would require some or all of the data for policy analysis and program evaluation, staff from the major Congressional committees dealing with health affairs, representatives of the American Hospital Association, the Hospital Financial Management Association, Blue Cross Association and other national associations with defined interests in health care cost analysis. Representatives of state governments, regulatory and planning agencies and HSAs should also be invited to participate, as well as state rate setting programs under a Model 2 structure. According to policies set forth in DHEW's Health Statistics Plan, the process of identifying the data set would take place under the general leadership of the Health Data Policy Committee and the U.S. National Committee for Vital and Health Statistics.

Once the UHCDS is constructed and implemented, the National Center for Health Statistics should assume responsibility for making the data and/or

its analyses available to the various user agencies and organizations, either directly or through the Cooperative Health Statistics System, provided that it could be given the resources necessary to carry out such new responsibilities.

If users at the state and local levels are to derive the maximum benefit from the newly available cost data, however, a number of special technical assistance programs should be developed under the general leadership of the NCHS, directed at certificate of need agencies, PSROs, licensing agencies, HSAs, etc.

In the meantime, pending the development and implementation of a hospital cost data set, the current moves towards active data sharing among different regulatory and planning agencies at both state and federal levels should be encouraged in every possible way. Where state statistical centers are in existence, they should be helped to take a more active role in facilitating the dissemination of hospital cost data and assisting in the data's interpretation. While this resource is not yet available, working agreements between rate setting programs, certificate of need bodies and HSAs should promote an increasing appreciation of the various ways such data can be put to use in their joint efforts to improve the cost effectiveness of hospitals and other health services.

Recommendations on a Uniform Hospital Cost Data Set (UHCDS)

1. The purpose of a uniform hospital cost data set is to inform national health policy and to serve information needs of health regulatory agencies and health programs at both the national and state levels. Thus, representatives of the major potential users of the UHCDS at federal and state levels should have an important voice in its development. However, the Social Security Administration, if it is to administer the national rate setting program under Model 1, or to monitor rate setting programs under Model 2, must have the final authority for specifying the set.

2. Responsibility for the abstracting, processing and quality of the data should be vested in SSA. However, to promote timely generation of UHCDS data, abstracting and processing should be conducted at regional or state levels by SSA or state intermediaries. This should be done immediately after desk review of the full reports.
3. High priority should be assigned to abstracting and processing in order to promote timely access to the data.
4. The rate setting enabling law and subsequent federal guidelines should contain provisions promoting the dissemination and use of UHCDS data.
 - Tapes should be provided to SSA for its own uses, and to the National Center for Health Statistics for analysis and dissemination of information to the other users.
 - Where state statistical centers exist under the Cooperative Health Statistics System, they should receive UHCDS tapes.
5. Technical assistance programs should be developed under the general leadership of the National Center for Health Statistics designed to help state level users such as certificate of need agencies and HSAs to derive maximum benefit from the availability of the cost data.

Where state statistical centers are in operation, they should assume responsibility for promoting wider access to UHCDS data and analyses
6. As a long range goal, NCHS and local state statistical centers should develop the capability of demonstrating to state rate setting bodies (under Model 2) and health planners and others the relation of cost, utilization, and hospital resource data to population data so as to show how the health system serves the people, and at what cost.

PART I. SCOPE OF INFORMATION FOR HOSPITAL RATE
SETTING AND PROGRAM MONITORING

SECTION 1: TYPES OF INFORMATION AVAILABLE TO CURRENT RATE SETTING PROGRAMS

Several global types of considerations shape the choices of information presently used in the prospective establishment of hospital rates by state and Blue Cross programs: the cost containment goals of the agency administering the program and the methodologies employed to attain them, the principles of payment being employed by major payers in the region, and the availability and quality of types of data that might be desired.

Our review of the types of information that current rate setting programs seek will be made first from the perspective of their particular objectives and the methodologies they employ. We will then discuss the role that availability of data appears to play. In this connection we will note the influence of the principles of reimbursement governing third party payers on the scope and character of financial and activity data that hospitals can provide to rate setters without incurring inordinate extra reporting burdens.*

Information Geared to Program Objectives

While the recent push toward hospital rate setting has been primarily fueled by the public's and third party payers' concern with containing hospital cost increases, we found that different rate setting programs currently interpret their cost control mission in quite different ways. For some, rate setting is viewed primarily as a process for stimulating better hospital management that in turn should result in lower costs; for the majority, the task is to control hospital prices for given units of service, e.g., per diem

* The types of information necessary to permit third party payers to identify allowable costs, perform cost finding and cost apportionment, etc., are not discussed directly, since these requirements would not be affected by a change from cost-based reimbursement to rate setting. These matters have been well reviewed in other publications.¹

rates or charges. A few programs, perhaps in the vanguard, seek to impose annual limits on total hospital revenues both within hospitals and within a geographic region, and thus to force better resource allocation practices both within and among its institutions in attempts to improve the cost effectiveness of the system.

Whatever their particular orientation and emphasis, programs must operate within the specific terms of state laws or Blue Cross contracts. Typically, these require the program to establish rates that are "reasonably related to the efficient production of hospital services of good quality," a phrase loaded with terms open to a variety of operational definitions. In addition, laws and contracts may give the program other responsibilities, such as meeting the hospitals' full financial requirements, and fair share payment to all payers. From interviews with officials of state programs and various Blue Cross plans it is apparent that most of them try to steer a safe course that will satisfy all such objectives to a greater or lesser degree, in the light of local perceptions of:

- where potential hospital cost excesses lie;
- the points at which it is technically and politically feasible to try to control them.

These perceptions may, and do, change over time in response to fiscal pressures on the state or Blue Cross plan, and actions by consumers and hospital groups. Up to now the thrust has been to improve hospital efficiency, acting on the implied assumption that important excess costs stem from fat in hospital budgets, underutilization of facilities and/or poor management. To identify this presumptive fat, the principal emphasis has been on analysis of labor and supply costs, using discovery of outlier situations to scale down hospital first-round demands for price increases. In addition, almost all rate setting programs also try to use the rate structure in conjunction with certificate of need decisions to curb unnecessary expansion of hospital facilities and duplication of programs.

Apart from these few general characteristics, the nation's rate setting or rate review programs are highly diverse. To bring some sort of

order to this diversity, the project's advisory committee introduced the useful concept of different generations of rate setting programs (see Appendix B, p. B-6.) While they have evolved in more or less historical sequence, programs typifying each generation are now operating concurrently in various parts of the nation, some incorporating features of several generations.

The Rate Setting Generations

The first generation programs, of which the Indiana Blue Cross program is the prototype, concentrate on budget reviews of individual hospitals. They are designed to spot excessive year-to-year changes in the operating costs of hospital departments and to spot management inefficiencies, particularly in the hotel-type support services of hospitals.² They rely on peer disclosure and persuasion to influence the behavior of administrators and trustees. Most of the programs are conducted under terms of Blue Cross contracts and are therefore to a greater or lesser extent voluntary, i.e., hospitals can withdraw from Blue Cross participation if they are dissatisfied with the results. In some cases, hospital trustee representatives and administrators serve on the budget review committees; trustees may also be asked to attend reviews of their own hospital's budget. Hospitals submit financial statements to the reviewers, together with a package of standard forms and schedules designed for the purpose. The type of information about hospital costs and volumes of activity that the programs require is usually very similar to that required on the Medicare cost report, a 40 page package of schedules and worksheets completed annually by all hospitals participating in the Medicare program, but they may request more or less detail. Exhibit B shows the types of data requested on the Medicare cost report.

Some programs ask for reports based on the hospitals' prior year actual costs and volumes of activity, some for current year estimates. These historical cost data from the hospitals are juxtaposed to budgets that project costs and volumes for the coming year according to the same categories, enabling the reviewers to monitor changes.

EXHIBIT B: TYPES OF INFORMATION COLLECTED ON THE MEDICARE COST REPORT

Utilization and other Statistical

(by type of function: hospital general services, special care units, subprovider, SNF)

- Bed days
- Total patient days
- Discharges
- Admissions
- Outpatient Occasions of Service:
 - Total
 - ECF
 - Medicare
- Nursery Days
- Patient Days, Admissions, Discharges by Payment Sources
 - Maternal and Child Health
 - Medicare
 - Medicaid
- Full time equivalent paid employees
- Full time equivalent non-paid employees
- Output by revenue producing department, e.g., operating room minutes.

Expenditures

- Total expenses
- Total Medicare allowable expenses
- Direct expenses by cost center
- Direct expenses by groups of cost centers (general Services, ancillary, etc.)
- Salary expenses
- Employee health and welfare benefits
- Depreciation expenses
- Costs allocated by function (routine and total):
 - Inpatient
 - Outpatient
 - Long term care
 - Home health
 - Inpatient subprovider

Revenues and Other Financial

- Gross revenue
- Net revenue
- Revenue from non-patient sources (by fund)
 - Grants
 - Gifts
 - Telephone, cafeteria, etc.
- Net Income or loss from patient services
- Net Income or loss
- Total Charges, by function
 - Inpatient
 - Outpatient
 - Long term care
 - Home health care
 - Inpatient subprovider
- Total charges by revenue producing department
- Total charges by source of payment
 - Medicare
 - non-Medicare

With one exception that will be noted, this same basic model of cost and budget report submissions underlies all the other rate setting generation programs. However, the first generation programs are unique in not attempting to use their reports for comparative analysis. Recognizing the difficulties of obtaining comparable data occasioned by hospital accounting organized solely to serve the purposes of internal management, they confine their analysis to the cost trend experience in each individual hospital.

Second generation rate setting, exemplified by the state and Blue Cross programs in New York State, focus almost solely on keeping hospitals' per diem rate increases in line with the rate of overall economic inflation. In addition, to promote efficiency, hospitals are penalized if the occupancy rates of various services fall below certain prescribed minimums. Unlike any of the other rate setting generations, no hospital budgets are submitted; prices are calculated under formulas that rely entirely on historical cost data (a base year of audited actual costs, and a current year of nine months actual and three months estimated). The Uniform Cost Report the hospitals submit is like that of the first generation programs, but a companion Uniform Statistical Report yields considerable more detail on size, location, type of control and teaching status variables. These data are used to construct comparison hospital groups. The programs also employ a variety of economic data, largely derived from government reports, to construct economic change indexes.

Third generation programs, such as in Maryland and New Jersey, lay prime stress on improving hospital productivity. They rely heavily on comparative analysis of both costs and budgets, using computer screens. They base a considerable portion of their comparative analysis on direct costs per unit of service, both according to hospital departments and to prescribed, defined cost centers, before allocation of indirect costs. Since such analysis cannot be performed reliably in the absence of uniform accounting and reporting, this type of program usually mandates the adoption of such new systems. (See page B-7.) They require a far greater wealth of detail than is sought for by the first and second generation programs (see Exhibit C). It is an evolving

EXHIBIT C: FORMS REQUIRED IN THE COST/BUDGET REPORTING SYSTEM
OF THE MARYLAND HEALTH SERVICES COST REVIEW COMMISSION

<u>Schedule</u>	<u>Title</u>
UBS	Balance Sheet - Unrestricted Funds
RBS	Balance Sheet - Restricted Funds
SFB	Statement of Changes in Equity
RE	Statement of Income and Expense
FP	Statement of Changes in Financial Position
A	Gross Operating Revenues
B	Fringe Benefits
I-1	FTE's - General Service, Auxiliary Enterprises and Other Institutional Programs
I-2	FTE's - Patient Care Centers
MS	Room and Daily Patients Care Center Statistics
NS	Ancillary and Outpatient Care Center Statistics
R	Hospital Based Physicians
DR	Dealings and Relationships with Certain Entities
OO	Data Concerning Owners and Related Organizations
	(Budget Schedules)
V-1	Forecasts of the Number of Inpatients and the Number of Patient Days
V-2	Forecasts of the Number of Outpatient Visits
V-3	Bases for Budgeting Ancillary Service Units
V-4	Computation of Volume Changes
V-5	EQUIVALENT INPATIENT DAYS
W	New Programs
S	Summary of Internal Budget Adjustments
C	GENERAL SERVICE CENTER BUDGETS
CWS	Service Center Worksheet
CC-1	Cafeteria
CC-2	Cafeterial Loss Treated as Fringe Benefit
CU	Energy Cost Center
D	PATIENT SERVICE CENTERS
E	AUXILIARY ENTERPRISES (AE)
F	OTHER INSTITUTIONAL PROGRAMS (OIP)
J	General Service Cost Apportionment
H-1	Building Facility Allowance
H-2	Departmental Movable Equipment Allowance
H-3	Distribution of Capital Facilities Allowance
H-4	CAPITAL FACILITY ALLOWANCE SUMMARY
H-5	Buildings/Equipment Fund Statement of Changes in Fund Balances
G	Other Financial Considerations
GR	Cash and Marketable Assets
GT	Charity and Bad Debt Allowances
K	Summary of Auxiliary Enterprises
L	Summary of Other Institutional Programs (OIP's)
M	PATIENT SERVICE CENTER SUMMARY
PD-1	Third Party Payor Differential
MA	RATE SUMMARY AND COMPARISONS

* Major Schedules are in capital letters

process that Dowling describes as follows:³

Once the reviewers have obtained the basic cost data, they decide that they need more detail and begin to ask the hospitals to relate their inputs to departments, to permit comparison between hospitals. The next stage is to recognize that total costs are not enough. They then begin to look at cost per unit of service in different cost centers. This requires still more data. Then the rate setter realizes that since costs are primarily a function of one particular type of input - manhours - he needs better breakdowns of manhours by department or cost center. Then, since costs are manhours times the compensation for these manhours, he begins to seek detailed data on salary levels and fringe benefits to relate to the unit costs.

In addition, the programs usually add schedules to their cost and budget report packages that will reveal details on particular areas of suspected high costs, such as compensation of radiologists, consultants and leasing arrangements, and, for profit-making hospitals, payments to owners and relatives.

Fourth generation programs, exemplified by those of the Blue Cross of Western Pennsylvania and Washington State, also rely heavily on comparative analysis of direct costs by cost centers, but in addition to management efficiency also take into account a wide variety of other factors that may influence these differences. They exercise great care in constructing their hospital groups for comparative analysis, explicitly seeking to factor in differences in hospitals' scope of services, differences in the degree of physician specialization and numbers of education programs, and differences in the nature of the populations they serve. This calls for each hospital to report its physician roster, its medical programs and its teaching programs in considerable detail, either on separate schedules of the cost or budget report, or through special surveys (See Exhibits D and E).

**EXHIBIT D: HOSPITAL SERVICE DIRECTORY SCHEDULE OF BUDGET REPORT,
WASHINGTON STATE HOSPITAL COMMISSION**

HOSPITAL BASED SERVICES*	Code	HOSPITAL BASED SERVICES*	Code
DAILY HOSPITAL SERVICES		OTHER ANCILLARY SERVICES (Cont'd)	
Coronary Intensive Care		Hematological Services	
Pediatric Intensive Care		Clinical Chemistry Services	
Burn Intensive Care		Serologic Services	
Medical Intensive Care		Urinalysis Services	
Surgical Intensive Care		Microbiologic Services	
Newborn Intensive Care		Necropsy Services	
Isolation Intensive Care		Pulmonary Lab Services	
Psychiatric Isolation Intensive Care		Organ Bank	
Pulmonary Intensive Care		Blood Bank	
Communicable Disease Isolation Care		Electroencephalography	
Protective Isolation Care		Electrocardiography	
Semi-Intensive Care		Electromyography	
Drug Abuse Care		X-Ray Examination	
Alcoholism Care		X-Ray Therapy	
Inpatient Care Under Custody (Jail)		Cobalt Therapy	
Metabolic Care		Radium Therapy	
Newborn Nursery Care		Diagnostic Radioisotope	
Mental Retarded Nursery Care		Therapeutic Radioisotope	
Premature Nursery Care		Pharmacy W/PT Registered Pharmacist	
Stroke Care		Pharmacy W/PT Registered Pharmacist	
Neonatal Acute Care		Pharmacy Unit Dose System	
Post Partum Care		Pharmacy IV Additive Program	
Psychiatric Acute Care		Clinical Pharmacologic Services	
Pediatric Acute Care		Psychopharmacological Therapy	
Geriatric Acute Care		Shock Therapy	
Medical Acute Care		Physical Therapy	
Surgical Acute Care		Occupational Therapy	
Skilled Nursing/Extended Care		Speech Therapy	
Psychiatric Long-Term Care		Rehabilitation Therapy	
Tuberculosis Long-Term Care		I.V. Therapy	
Intermediate Care		Psychiatric Therapy	
Rehabilitation Care		Clinical Psychologist Services	
Residential/Congregate Care		Inhalation Therapy	
Mental Retardation Care		Blood Collection and Processing	
Self Care		CLINIC SERVICES	
PARTIAL DAY CARE		Cardiology	
Psychiatric Night Care		Chest Medical	
Psychiatric Day Care		Communicable Disease	
HOME CARE SERVICES		Dermatology	
Home Physical Medicine Care		Diabetes	
Home Social Service Care		Allergy	
Home Dialysis Training		Metabolic	
Jail Care		Neurology	
Psychiatric Foster Home Care		Pediatric	
Home Nursing Care		Neonatal	
EMERGENCY SERVICES		Psychiatric	
Emergency Room Service		Obstetrics	
Ambulance Service		Hypertension	
Mobile Cardiac Care Service		Rheumatic	
Psychiatric Emergency Service		Renal	
Emergency Observation Service		Orthopedic	
E.R. Communications System		Trauma Ortho	
Trauma Treatment E.R.		Ophthalmology	
Orthopedic Emergency Service		Otolaryngology	
Radioisotope Decontam. Room		Podiatry	
OTHER ANCILLARY SERVICES		Dental	
Delivery Room Services		Alcoholism	
Labor Room Services		Child Diagnosis	
Abortion Services		Child Treatment	
Dental Surgery		Drug Abuse	
Podiatry Surgery		Family Therapy	
Urologic Surgery		Group Therapy	
Otolaryngologic Surgery		OTHER SERVICES	
Plastic Surgery		Toxicology/Antidrug Info	
Surgical Day Care (One Day)		Drug Reaction Info	
Gynecologic Surgery		Cancer/Tumor Registry	
Kidney Transplant Services		Family Planning	
Open Heart Surgery Services		Genetic Counseling	
Heart Cath/Sterile Room Services		Dietetic Counseling	
Cystoscopy Service		Parent Training Class	
Neurological Surgery		Diabetic Training Class	
Ophthalmologic Surgery		Public Health Class	
Orthopedic Surgery		Medical Research	
Recovery Room			
Anesthesia Services--Surgical			
Anesthesia Services--OB			
Anatomic Pathologic Services			

*Budget Year

**EXHIBIT E: PHYSICIAN STAFF SCHEDULE,
BUDGET REPORT OF THE WASHINGTON STATE HOSPITAL COMMISSION**

HOSPITAL LICENSE NO. _____ ADMINISTRATOR _____ ADDRESS _____ PHONE () _____ DATE SUBMITTED _____
BUDGET PERIOD FROM _____ TO _____

1a.

Line No.		*ACTIVE MEDICAL STAFF PROFILE MD's/DO's (ENTER NO.)				INTERN/RESIDENT PROFILE (ENTER NO.)				
		Hospital Based		Non-Hospital Based		Approved Programs		Other Residents		
		Board Certified A	Board Eligible B	Other C	Board Certified D	Board Eligible E	Other F		Intern G	Extern H
01	CLINICAL SPECIALTY									
02	Family Practice									
03	General Practice									
04	OB/GYN									
05	Pediatrics									
06	Psychiatry									
07	Oncology									
08	General Surgery									
09	Neurosurgery									
10	Thoracic Surgery									
11	Urology									
12	Cardiovascular Surgery									
13	Plastic Surgery									
14	Orthopedic Surgery									
15	Vascular Surgery									
16	Oral Surgery									
17	Internal Medicine									
18	Cardiology									
19	Gastroenterology									
20	Neurology									
21	Ophthalmology									
22	Dermatology									
23	Endocrinology									
24	Hematology									
25	Anesthesiology									
26	Radiology									
27	Pathology									
28	Podiatry									
29	Dental									
30	TOTAL									

*Beginning of Budget Year.

Finally, the most advanced generation programs are apt to be concerned with total expenditures for hospital care in their area, rather than simply with unit prices. This may take the form of limits on volume increases as well as prices, as in recent efforts of the Connecticut Commission, or of some state ceiling limit on total hospital expenditures for a geographic area, as in the Rhode Island Blue Cross plan's Maxicap, within which individual hospital's budgets are negotiated.

Regardless of generation, most rate setting programs closely monitor trends in the financial status of the hospitals in their jurisdiction or plan area, their cash flow position and net margins. Many actively seek to minimize hospitals' dependence on short term loans. Utilization rates are also monitored closely. To a greater or lesser degree, the programs also try to learn hospitals' future program plans and anticipated capital expenses, by asking for three to five year capital budgets and narrative statements describing their present and future missions and short- and long-term objectives. By sharing such types of information with planning agencies they encourage anticipatory actions to prevent, or reduce, excessive bed capacity and duplication of services. This has led to increasingly strong working relationships between rate setters and certificate of need agencies in reviewing the appropriateness of proposed new capital spending and/or new medical programs in terms of community need. At a minimum, most rate setting programs now seek data by which to determine the impact of such proposed expansions on operating costs, as well as on the capital costs of hospitals, and information that justifies the support of such new costs in the future rate structure. This may call for detailed analysis of architectural plans and construction estimates and costs. A variety of other special studies may be required to determine rates especially for high technology services, such as CAT scanners. Finally, the responses to appeals and litigations that hospitals may bring requires the ad hoc collection of data relevant to the issue at hand.

One should also note the possible sources of excess hospital costs that rate setters have so far studiously avoided attempting to control.

High on the list stands inappropriate patient management: unnecessary admissions, unnecessary surgery and/or volumes of other types of services and procedures, iatrogenic complications, etc. Even when utilization review systems and medical audits are functioning in hospitals, no systematic communication between the two types of reviewers has been established. Although they well recognize that physicians are responsible for the largest share of cost-generating decisions in hospitals, rate setters are loath to take actions that might be interpreted as interfering with physician prerogatives. Only one program, that of Rhode Island Blue Cross, seeks to moderate excessive lengths of patient stay.

In summary, to advance toward whatever broad cost containment goals they choose to pursue, most rate setting bodies have adopted one or more of the following types of programmatic objectives, using their rate setting powers at some point in the process:

Establish macro-economic controls by:

- limits on overall price or revenue increases for individual hospitals;
- limits on overall expenditure increases for hospitals within a defined geographic area.

Encourage better management by:

- the budget review process itself;
- micro controls on allowable unit cost increases in cost centers.

Discourage underutilization by:

- direct penalties on low occupancy services;
- indirect penalties via micro controls on unit costs.

Rationalize facility and program expansions by:

- providing cost analyses for certificate of need reviews and requiring planning and CON approvals before considering rate adjustments.

Encourage better patient management by:

- discouraging excessive lengths of stay (Rhode Island only).

Exhibit F sets forth some of the types of cost and other data that eight different states and Blue Cross rate setting programs employ to pursue these types of objectives. The listings in this exhibit are not intended to be in any way inclusive; nor, as we have already noted, do all the example programs use the same types of data in pursuing the same type of objective. However, the exhibit does illustrate the range and types of data that current rate setting programs find necessary to secure for accomplishing their purposes. Full descriptions of the information used by the Arizona, Maryland, Massachusetts, New York and Washington programs are set forth in the project's working papers.

Relation of Data Availability to Choice of Methodology

We have already seen that the types of data that are needed for implementing these widely disparate types of goals must also meet the requirements of the particular methodologies their rate setting programs employ to move towards them, and that the most common methodologies for reaching decisions on allowed prospective hospital operating rates are:

- individual hospital cost and budget reviews;
- exception reviews of peer group hospitals;
- formula applications either for individual hospitals or for hospital groups to project allowable rates of increase in line with economic indices;
- special review of rates necessary to support new capital and operating costs associated with changes in facilities and programs.

Conversely, the rate setting methodology often is shaped to accomodate to the type and character of the data that happens to be available when the program goes into effect.

Few of the basic reporting systems that hospital rate setting bodies employ were especially designed to serve purposes of rate setting geared to cost containment and/or improvement in hospital cost effectiveness. Rather, most of them are simply outgrowths of the Medicare cost report and similar cost reports developed by the individual Blue Cross

EXHIBIT F: RATE SETTING OBJECTIVES RELATED TO TYPE OF DATA EMPLOYED IN EIGHT SELECTED STATE AND BLUE CROSS PROGRAMS

LARGE OBJECTIVE	INTERMEDIATE OBJECTIVES	RATE SETTING PROGRAM EXAMPLES*	TYPES OF DATA THAT MAY BE USED
MACRO-CONTROL	Keep hospital cost increases in line with inflation increases.	New York Massachusetts (for Medicaid) Western Pennsylvania Blue Cross Arizona Maryland New Jersey Rhode Island Blue Cross	<ul style="list-style-type: none"> • Historic costs, rate projections, related to economic indexes constructed from data from: <ul style="list-style-type: none"> - Consumer Price Index - Wholesale Price Index - BLS (or local) salary surveys - Actual price trends in certain items, e.g., fuel, malpractice insurance, etc. - Proxies for other supply items - Wage and salary trend proxies, etc.
	Keep hospital cost increases in line with peer group averages	Western Pennsylvania Washington New York	<ul style="list-style-type: none"> • Grouping schemes may use data including the following: <ul style="list-style-type: none"> - Number of licensed beds; patient days - Urban/non-urban locations - Approved teaching programs; interns, residents - Number, mix of board certified specialists - Number and type of special services, weighted by imputed costs - Age, income characteristics of population in hospital service area - Proportion of Medicare days to total days
	Keep hospitals solvent but restrict revenue margin.	Arizona Washington Massachusetts Rhode Island Indiana Blue Cross Maryland New Jersey	<ul style="list-style-type: none"> • Financial statements • Fund balance changes • Net margins • Cash budgets, collectables; contractual allowances, bad debts
	Individual hospital rate increases calculated within a set maximum expenditure increase for the geographic region.	Rhode Island New Jersey (capital expenditures)	<ul style="list-style-type: none"> • Bottom line projected increases all hospitals in geographic region • Capital spending needs for region
	Encourage better internal accountability of hospital departments	New Jersey (before 1974) Washington Rhode Island (Blue Cross) Western Pennsylvania Blue Cross Indiana (Blue Cross) Most other Blue Cross rate setting programs	<ul style="list-style-type: none"> • Cost and budget reports, reporting and review process designed to encourage better budgeting procedures, internal reporting systems; display aberrant departmental cost increases, staffing patterns, etc., to hospital administrators, trustees; encourage physicians to prioritize new spending demands, e.g., emphasize use of data for internal hospital purposes.
ENCOURAGE BETTER MANAGEMENT	Encourage management by objectives.	Washington Maryland	<ul style="list-style-type: none"> • Statement by each department of particular cost savings objectives for budget year and imputed dollar savings; statement of total hospital cost saving objectives, imputed dollar savings. Checks with actual achievement following year.
	Identify inefficiencies in hospital operations by statistical analysis, exception reviews of unit costs and display, penalize internal cross subsidies.	Arizona Maryland Washington New Jersey (1976) Rhode Island	<ul style="list-style-type: none"> • Detailed reports of costs, revenues, volumes by cost centers. (Requires uniform accounting and reporting, reclassification of responsibility cost centers to functional activity centers for comparative analysis of direct unit costs matched to revenues before and after allocation of indirect costs.)
	Discover and disclose the compensation rates of hospital-based physicians.	Arizona Maryland New York (selective) New Jersey Western Pennsylvania Washington	<ul style="list-style-type: none"> • Reports on physician compensation arrangements, duties, and hours.
	Detect conflict of interest situations.	New York Maryland Washington New Jersey Arizona	<ul style="list-style-type: none"> • Statements on hospital transactions with business in which board members or officers have financial interest.

[EXHIBIT CONTINUED]

EXHIBIT F: CONTINUED

LARGE OBJECTIVES	INTERMEDIATE OBJECTIVES	RATE SETTING PROGRAM EXAMPLES*	TYPES OF DATA THAT MAY BE USED
DISCOURAGE UNDER-UTILIZATION	Penalize underutilized services to encourage phaseouts, e.g., Obstetrics, Pediatrics, etc.	New York Massachusetts Rhode Island New Jersey	• Beds, admissions, patient days by type of hospital service - calculation of occupancy rates
	Penalize underutilized high technological procedures, e.g., open heart surgery, dialysis, etc., to encourage phaseouts.	New York	• Number of procedures per year of specified types related to number of deaths by patient age.
RATIONALIZE HOSPITAL EXPANSIONS	Discourage new medical programs, new facilities, new major equipment or replacements not needed by the population in the hospital's service area. (Need determination from planning or CON bodies.)	Arizona Massachusetts New York Maryland New Jersey Rhode Island Washington Western Pennsylvania Indiana	• CON agency recommendations (all programs) • Hospital service area delineation • Planning agency recommendations according to a preagreed priority ranking of needs • Long term capital budgets from hospitals • Hospital statement of mission, planning priorities (overall, and by department) • Population and resource data from planning agency staff, and staff cooperation in community need/cost impact analyses • Travel time estimates
	Encourage needed new programs, especially for alternatives to inpatient care.	Washington Rhode Island New Jersey	• Planning agency priority rankings in relation to resources of hospital service area, population characteristics
ENCOURAGE BETTER PATIENT MANAGEMENT	Penalize excessive lengths of stay for selected diagnostic categories, age adjusted.	Rhode Island	• Hospital discharge abstract summaries (PAS)
FACTOR QUALITY DIFFERENCES INTO RATE DECISIONS	Exclude hospitals with low costs associated with substandard quality from group averages.	New York	• Reports from certification agencies • JCAH accreditation status

* The programs used as illustrations in this exhibit are: Arizona, Indiana Blue Cross, Maryland, Massachusetts, New Jersey, New York, Rhode Island Blue Cross, Washington and Western Pennsylvania Blue Cross. In Rhode Island the program is cooperative between Blue Cross and the state; in New York the state administers rate setting for Medicaid and establishes the regulatory framework within which eight Blue Cross plans administer rate setting formulas and submit rate recommendations for approval by state agencies. Arizona's program is solely for mandatory rate review - the state has no authority to establish rates.

plans to serve as the basis for cost-based reimbursement. Some early programs of prospective reimbursement were viewed as merely shifting the time frame of payment decisions, on the assumption that this would in itself modify hospital cost increases.⁴ Therefore, the original cost report models were seen to be basically satisfactory.

Equally important, hospitals had long become accustomed to assembling the very considerable masses of data required for their third party cost reports, and in any event they had to continue doing so for Medicare and any other major payers not covered by the new rate setting plan. Thus, to avoid duplication of hospital effort, even the newest programs' cost and budget report packages are intentionally designed in close conformity with traditional cost report categories.

Many of the other potential sources of data that might be used to better inform rate setting decisions are not now available. The most important gap is the absence of the kind of hospital patient data that could be derived whether from statewide uniform hospital discharge abstract systems or from analyses of uniform claim forms. These could give rate setters profiles of the diagnostic casemix in each hospital matched to patient characteristics of age and sex together with profiles of the surgical and major diagnostic procedures and lengths of stay. Hospital patient data could also describe sources of hospital payment and, to some extent, delineate individual hospital service areas. However, in 1976, only one rate setting state, Rhode Island, had access to this type of data.

Other ideally needed types of information, such as reports from PSROs or other types of utilization reviewers, on the appropriateness of patient management and quality of care have not been forthcoming. The extent to which rate setters obtain information from licensing and planning agencies appears to depend on the particular working relationships that obtain within different state governments.

Although in theory state rate setting programs can require hospitals to furnish them any data they need, rate setting programs are usually

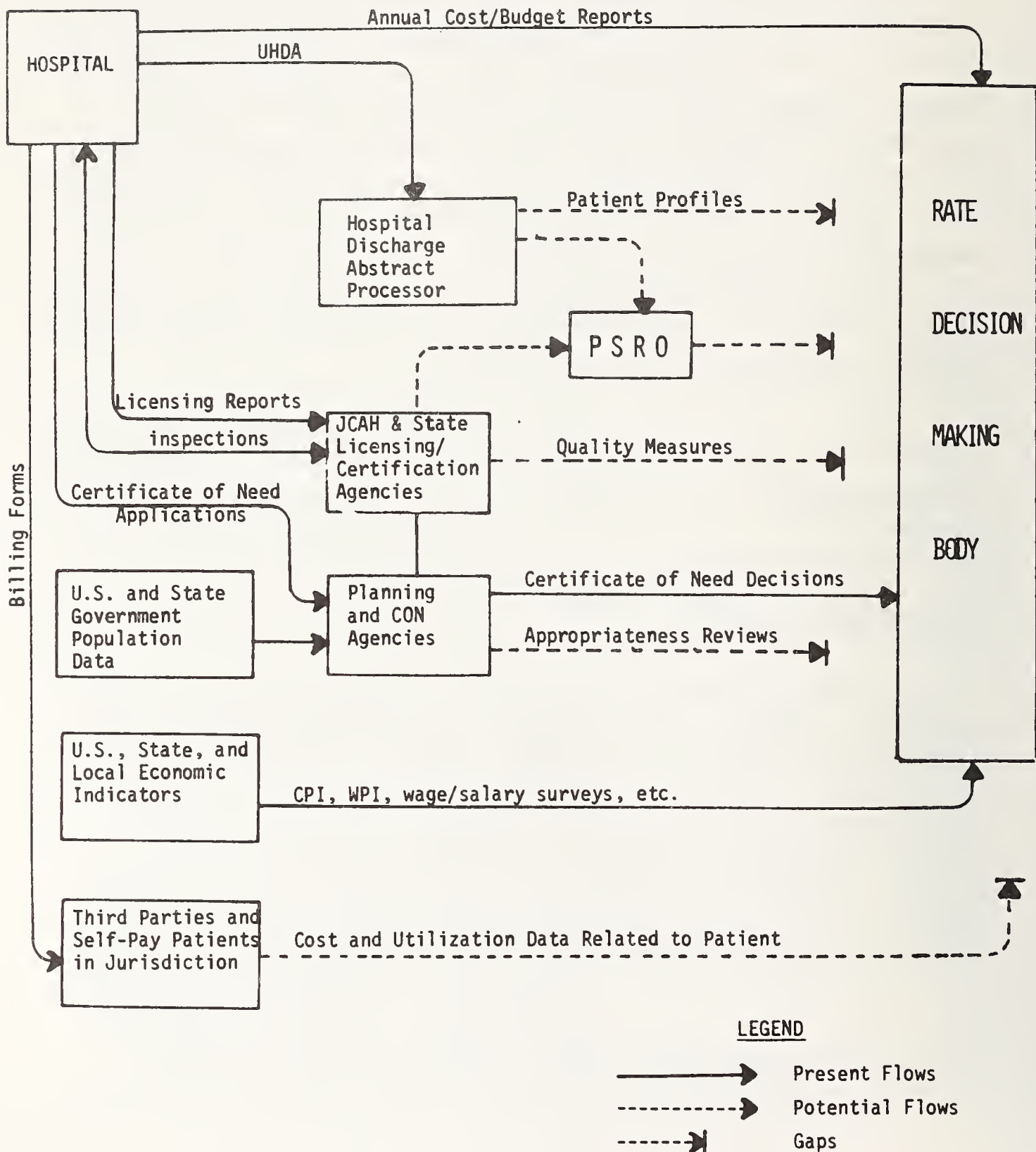
conceived by legislators in a hurry to get action. The new administering agency is given scant time to design and set in place the type of information infrastructure it might have wanted. For example, in 1969 the New York State legislature allowed only four months between enactment of the new rate setting law and its required implementation. There was no choice but to build the new program around the hospital cost reporting system that was already in place. Only a few states have had the luxury of approaching rate setting in a more deliberate fashion, allowing the design de nova of good supporting data systems. In California, for example, a new uniform chart of accounts, then a uniform reporting system, and finally a uniform budget report system were designed, tested and implemented, and a means for securing statewide hospital patient data from uniform hospital discharge abstracts developed - all before rate setting legislation had been enacted. (A bill is currently before the legislature.)

In short, the ready availability to current rate setters of the types of data found on cost reports, combined with the almost total unavailability of hospital patient data (see Exhibit G) may go far to explain the current heavy emphasis on analysis of costs related to differences in hospital inputs rather than to differences in hospital product.

Level of Detail Required

With each successive generation of rate setting programs the cost and budget packages the hospitals submit to the rate reviewers swell. The budget package submitted to the newest state rate setting program, the Washington State Hospital Commission, for example, includes 182 pages of forms on a total of 44 schedules. In part this reflects the program's emphasis on productivity measures at the cost center level which require detailed reporting of many variables used in budget screens. It also reflects an emphasis on gathering full detail on each hospital's resource and service characteristics, previously illustrated, and on the hospital's long term capital and service expansion plans. This latter information is shared with the state planning agency and helps to inform decisions on

EXHIBIT G: FLOW OF INFORMATION TO RATE SETTING BODIES AND CURRENT GAPS



both certificate of need and rate increases for hospital growth. Lest this reporting burden on hospitals be considered self-evidently outrageous, we hasten to add that appeals brought by Washington hospitals are non-existent. By contrast, in New York, the oldest state program, where hospitals are required to fill out a mere 56 pages of forms, appeals and lawsuits are rife.* In hospital rate setting, at least with today's methodologies, the currently popular KISS acronym - Keep It Simple Stupid - seems less relevant than the more venerable adage which reminds us that simplicity is the enemy of equity. Most hospitals, if their costs are to be compared with those of other hospitals, prefer to supply increasingly detailed data rather than to risk arbitrary decisions resulting from a reviewer's calculations based on highly aggregated data.

"Hospitals are being averaged to death," observed one hospital spokesman at the project's June 1975 conference. Until very recently, for example, New York's Uniform Financial Report divided natural expenses into only two categories: Salary and Nonsalary. Frustrated in attempts to find explanations of wide differences in the operating costs of their departments as reported on the UFR, in 1975 a committee of hospital financial officers and Blue Cross officials proposed a drastic expansion that would have reported 49 categories of non-labor expense and 10 categories of labor expense.

However, by furnishing such detailed data, hospitals put themselves at risk for how the external reviewers will use and interpret the data. Allen Manzano, vice president of the American Hospital Association, at the project's Advisory Committee meeting, stressed that hospitals were tired of being second-guessed:

* New York's Uniform Financial Report contains 31 pages; its Uniform Statistical Report contains 25 pages.

All hospitals ask is to be informed of the rules of the game before they make their spending decisions, rather than have reimbursements disallowed after the fact. Not only do they suffer from retroactive decisions from utilization review, even their purchases of equipment and supplies may be disallowed months after they are made as a result of reviewers' interpretations of the prudent buyer concept that are quite unpredictable.

Although rate setting programs may recognize that fine-grained data are required to make complex decisions on hospital rates, and although hospitals may be compliant in supplying them, as we shall see in a later section of the paper, practical constraints of budget and staff pose limits on the amount that can actually be edited, verified, processed, analyzed and interpreted.

The development of ever more sophisticated classification schemes and economic indexes may in the future offer partial solutions to this problem. However, methodologies that will yield classification schemes and indexes that are fair to both payers and providers is a difficult task. No one we encountered during the course of the project claimed to have found completely satisfactory solutions. Still, serious development work is underway in several parts of the country. The New York programs deserve special credit for their continuing efforts to refine their index methodologies.

Data for Hospital Grouping. Given the extraordinary diversity of institutions in the hospital industry, ranging from cottage hospitals all the way to enormous multi-function medical centers, a wide range of characteristics must be accounted for if hospitals are to be classified into truly homogenous comparison groups. Such variables must be chosen to properly reflect the important characteristics both of the hospitals and of the particular social and economic environment in which they operate.

Unfortunately, many cruder classifications, such as that employed by SSA for Medicare cost limits under section 223 of P.L. 92-603, account for only three or four factors, such as bed size, urban/rural location

and some gross measure of the economic status of a large geographic area. Such systems are notable for the volume of appeals and litigations they inspire. By contrast, the variables used to construct comparison groups through cluster analysis for the 119 hospitals in the state of Washington include:

- available beds
- licensed beds
- nonprofit/profit
- nongovernment/government
- accreditation status
- service index*
- interns
- residents
- physician mix index**
- hospital beds per 1000 population in the hospital survey area
- physicians per 1000 population in area
- median income of the population in area
- percent population 65 years or older in area.

There are several other advanced classification schemes, notably the point predictive method employed in prospective rate setting by the Blue Cross of Western Pennsylvania, and the American Hospital Association's classification on which the Washington system was modeled, that employs 21 variables.^{5,6}

Data for Economic Indexes. Similarly, a wide range of detailed economic data is required to construct indices to project some allowable percentage increase in hospital rates that will equitably account for increases in expenses due to changes in the price of goods and services required to produce hospital care. Since national or statewide economic indicators are far too gross to reflect local conditions, the sensitivity of the economic index depends in large part on both the availability of sound proxies for the prices of goods and services in subareas of a state or region, and the willingness and ability of the rate setting program to use them.

* The Service Index is constructed to take account of the proportion of special services the hospital offers weighted according to relative cost.

** The Physician Index is constructed to take account of the proportion of Board certified specialists on the hospitals' staffs.

Rate setting programs differ considerably in these respects. The New Jersey program, for example, employs only two proxies and two weights to represent all hospital goods and services, i.e., the Bureau of Labor Statistics Consumer Price Index is taken as proxy for changes in the prices of almost all non-salary items (a few, such as malpractice insurance, are considered totally out of the hospital's control and are specifically designated as passthroughs); the Bureau of Labor Statistics Average Hourly Earnings of Manufacturing Employees in New Jersey is taken as proxy for wage and salary changes of all hospital employees. This index is currently under challenge by New Jersey hospitals as being too gross to yield accurate predictions of trends in hospital input prices.⁷ The New York State programs have very elaborate indices and they are continually being tested and refined.⁸ For example, the Gort Index tested by Blue Cross in New York City in 1975 employed 44 proxies for 10 categories of wage and salary items and 20 proxies for 40 categories of non-labor items. In between these extremes the index used for setting Medicaid rates in Massachusetts employs 14 indices for non-salary items, and four categories for salaries and wages. The latter distinguish between movements in compensation of top professionals and administrators, middle management, technical and skilled, and unskilled workers.*

The Massachusetts index appears to be well-received by both the Rate Setting Commission and the hospitals, possibly because it is applied individually to each hospital, weighting the distribution of labor and

* To illustrate the kinds of proxies used to construct each indicator, the changes in salaries of hospital employees in Category 1 are estimated on the basis of changes in the salaries of Attorneys Level VI, Chemists Level III, Engineers Level VIII, Chief Accountants Level IV, and Personnel Directors Level IV as reported on the BLS National Survey of Professional, Administrative, Technical Pay. (See Berger, Laurence B., Sullivan, Paul R., Measuring Hospital Inflation: A Composite Index for the Measurement and Determination of Hospitals in the Commonwealth of Massachusetts, Lexington, Mass., Lexington Books, D.C. Heath, 1975.)

non-labor costs according to the actual historical experience in that hospital. This recognizes that the labor component may run from 55 to 75 percent of the total operating costs of any given institution. Had the same index been applied statewide to all hospitals, or to hospitals in grossly classified groups, it might be heavily criticized. This illustrates how the detailed application of all the methodological components of any particular rate setting system must determine the level of detail in the data required.

FOOTNOTES: SECTION 1

1. Topics in Health Care Financing, "Medicare Reimbursement," Vol. 1, No. 3, Spring 1975, and "Private Third Party Reimbursement," Vol. 2, No. 1, Fall 1975, Aspen Systems Corporation, Germantown, Pa.
2. Katharine G. Bauer and Arva R. Clark, The Indiana Controlled Charges System, Harvard Center for Community Health and Medical Care, Boston, March 1974.
3. Appendix B, p. B-15.
4. Paul Feldstein, "An Analysis of Reimbursement Plans," Reimbursement Incentives for Hospital and Medical Care: Objectives and Alternatives, Department of Health, Education and Welfare, Washington, D.C., United States Government Printing Office, 1968.
5. Larry Shuman, Harvey Wolfe, and C. Patrick Hardwick, "Predictive Hospital Reimbursement and Evaluation Model," Inquiry 9, February 1972, pp. 17-33.
6. P. Joseph Phillips and Ramani N. Iyer, "Classification of Community Hospitals," Health Services Research, Winter 1975, pp. 349-368.
7. John Rossman, et al., Analysis of the 'Economic Factor' as Incorporated into the Guidelines for the 1976 Hospital Rate Program Prepared by the State of New Jersey, Department of Health, Management and Planning Services, Hospital Association of New York State, Inc., May 1976.
8. Katharine G. Bauer, Information Available for Hospital Rate Setting in New York State, Harvard Center for Community Health and Medical Care Report Series R-45-10, Boston, April 1976.

SECTION 2: CHANGING PERSPECTIVES OF DATA NEEDS

Although the previous section has suggested the major types of data used to meet the needs perceived by state and Blue Cross hospital rate setters in 1976, it probably does not project what their data needs will be in 1980. In hospital rate setting, change is the name of the game. Almost every program we looked at was rethinking or expanding its objectives, experimenting with new rate setting methods or refining older ones. Equally important, programs are also rethinking their relationships with certificate of need and future HSAs in response to the terms of P.L. 93-641, and with PSROs.

Some of these changes reflect the realization that in the absence of meaningful measures of differences in the nature of the services that hospitals actually produce, current attempts to measure "productivity" in hospitals are at best quixotic, at worst, dangerous. For example, with today's data, in comparing visit costs of the emergency rooms of two hospitals, rate reviewers would have no way of knowing that one of the emergency rooms, in a hospital close to a freeway exit, handled a high volume of seriously injured highway accident victims while the other, almost exclusively, delivered primary care. Nor would they know that the first emergency room was staffed by U.S. trained physicians on round-the-clock shifts, while the second was staffed only during the day by a non-English speaking foreign medical graduate. In terms of simple unit costs, the second emergency room would appear to be more efficient and the "productivity" of its physician staff higher.

New ways are being sought by which to analyze cost differences in relation both to differences in the complexity and intensity of the services delivered, and to differences in patient mix. Other changes may be coming in response to challenges to improve the cost effectiveness of hospital services in relation to the population's health needs - raising fundamental questions as to differences in utilization and patient management practices and the role of rate setting in helping secure the best value for health dollar society spends.

New Emphasis on Differences in the Nature of Hospital Activities

Rate setters have been frustrated in trying to develop objective standards of hospital efficiency that they can use to make impartial rate decisions which will not overpay some hospitals for the type and quality of the work they do while underpaying others. Hospitals that stand to lose from rate decisions based on comparative screens are quick to point out in detail why their costs are higher than average. Standards of performance efficiency must be able to withstand the tests of their appeals and legal challenges, yet the statistical bases on which hospital performance is measured, reported in detail in the project's working papers, are for the most part inadequate. The standard units of measure used in the Arizona program, listed in Exhibit H, are typical of those employed in the more advanced budget review programs. Approaches to productivity measurement borrowed from manufacturing models are not easily transferred to hospitals, any more than they are to other highly complex service organizations such as legislatures, universities - or, for that matter - rate setting bodies themselves. (Cost per rate setting day or per budget reviewed would hardly be acceptable as a measure of program efficiency!)

The project's examination of differences and parallels between the economic regulation of hospitals and that of public utilities noted that the presence of clearly defined standard measures of output such as a kilowatt hour or a ton of freight carried makes the task of public utility regulators in arriving at rate judgments comparatively simple.* By contrast, hospital output, which consist of improvements in patients' health status or relief of pain, are not easily measurable. For example, the surrogate employed for purposes of financial accounting and reimbursement, "patient

* Even so, rate setting for public utilities has been characterized by enormous methodological difficulties. See project working paper, Information Problems Experienced in Regulating Public Utilities and Parallels in Hospital Rate Setting, by Katharine G. Bauer and Bruce E. Stangle.

EXHIBIT H: STANDARD UNITS OF MEASURE EMPLOYED IN ARIZONA RATE REVIEWS

COST CENTER

STANDARD UNITS OF MEASURE

DAILY HOSPITAL SERVICES

All 14 Centers except
Nursery Acute
Nursery Acute

Number of Patient Days

Number of Newborn Patient Days

ANCILLARY SERVICE

Labor and Delivery
Surgery and Recovery
Surgical Day Care
Anesthesiology
Central Services and
Supplies
Laboratories - Clinical
Laboratories - Pathological
Laboratories - Pulmonary
Function
Blood Bank
Electrocardiology
Electromyography
Electroencephalography
Radiology - Diagnostic
Radiology - Therapeutic
Nuclear Medicine
Pharmacy
Inhalation Therapy
Dialysis
Physical Therapy
Occupational Therapy
Emergency
Ambulance
Psychiatric Emergency Room
Clinics
Home Health Services

Number of Deliveries

Number of Operating Minutes

Number of Operating Minutes

Number of Operating Minutes

Number of Line Items Sold

Workload Measurement Units

Workload Measurement Units

Workload Measurement Units

Units of Blood Issued

Number of Procedures

Number of Procedures

Number of Procedures

Relative Value Units

Relative Value Units

Relative Value Units

Number of Line Items Sold

Number of Treatments

Number of Hours of Treatments

Number of Treatments

Number of Treatments

Number of Visits

Number of Occasions of Service

Number of Visits

Number of Visits

Number of Home Health Patient
Contacts

days," is an artificial construct that may more often conceal than reveal the mix and timeliness of inputs required for their "efficient production." One patient, during the course of any single admission, may on one day require only a few simple hotel and nursing services; on another, he may require an intensive succession of time-consuming activities by a wide range of highly skilled professional and technical personnel. The proportion of simple to complicated days will vary from case to case, and from hospital to hospital, according to the complexities of the cases treated, the resources available for use, the extent to which they should be and actually are employed, and their timing. Thus, accurately relating hospital costs to performance is exceedingly difficult, but is crucial if hospitals are to be compared according to "productivity."

The other measures of hospital activity (such as numbers of films used, numbers of laboratory tests performed, etc.) are also apt to be inadequate. With a few exceptions, the old measures set forth in the AHA chart of accounts in 1959 have continued to be carried forward into the two full scale revisions of the chart in 1964 and 1976. Simple counts of laboratory tests, for example, conceal differences in test complexity that call for widely varying mixes of time, materials and levels of technical training. Lacking any weighting to reflect such factors, a bone marrow analysis will count equally with a pap smear. The same principle obtains in many other areas of hospital performance, e.g., when operating room costs among hospitals are compared on the basis of numbers of operations performed without weightings, an appendectomy will equal an open heart procedure - yet the numbers and types of support staff and the equipment required are obviously of an entirely different order of magnitude. Such averaging penalizes hospitals that give complicated services requiring complicated mixes of resources, while it probably overpays simpler service hospitals. Rate setting bodies are becoming increasingly aware of these problems and, encouraged by hospital associations, many are experimenting with new types of activity measures.

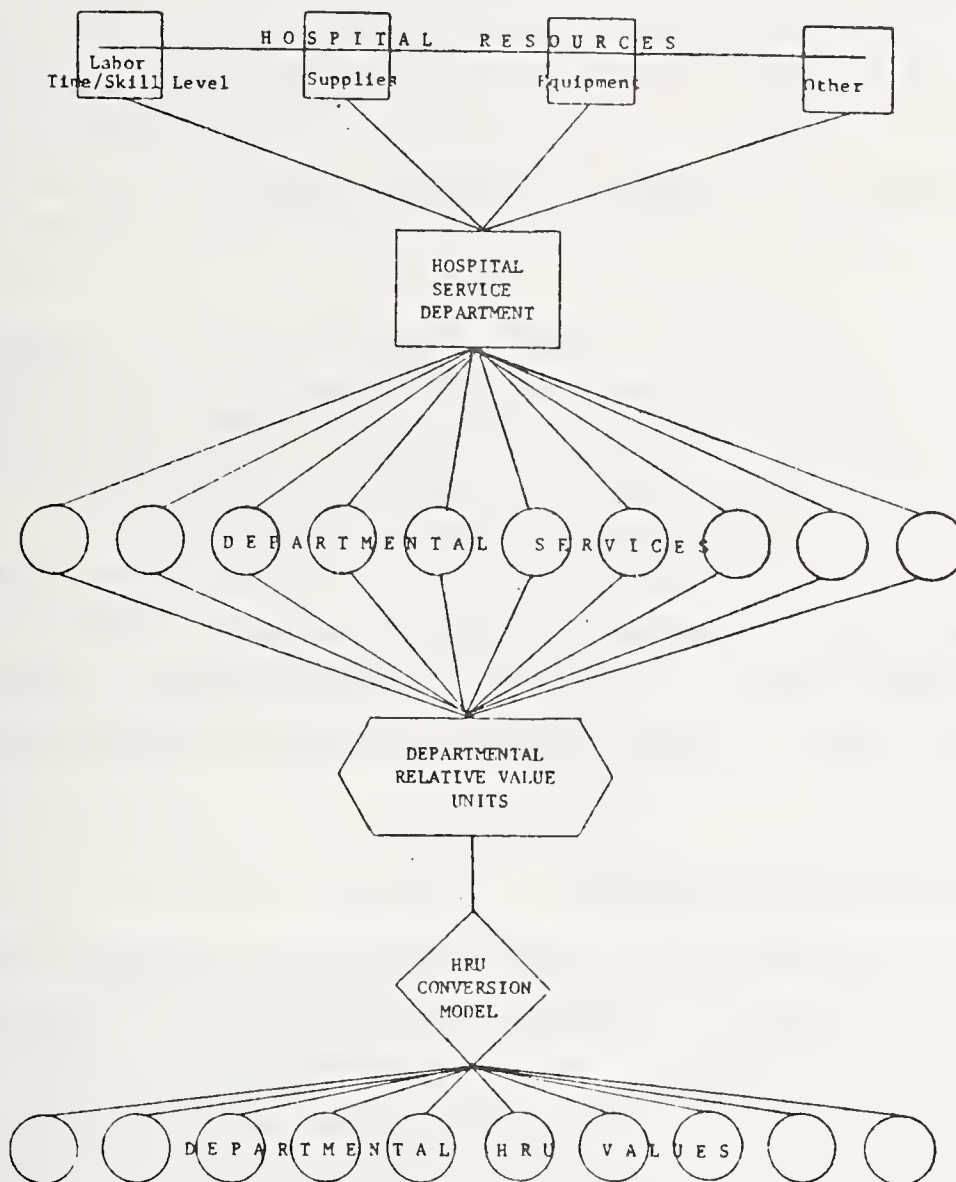
Relative Value Scales. The principle of relative value scales is looked to as one means to account for differences in the complexity of what hospitals do in many realms of their activities. Herkimer, for example, urges that hospitals accumulate and project all their production statistics based on relative unit values for each department and that the denominator for judging efficiency be changed from dollars to productive manhours required.¹ He and his colleagues propose the development of Hospital Resource Units (HRUs) to measure the relative degree of resources delivered to a patient in a hospital, focusing on four major components: labor, supplies, equipment and other. Exhibit I shows the conceptual model now in development.

Will Bishop has proposed a similar approach through the development of Patient Service Units (PSUs), first for all hospital ancillary departments, and then for nursing care. He suggests that were a standardized reporting system for PSUs to be developed and universally adopted by hospitals, the units could eventually replace the Patient Day as the basic measure of output, yielding a much more equitable basis for comparison among hospitals as well as a better tool by which hospital management could judge the staffing efficiency of its departments. He gives the following example to show how relative value units might differ among the major hospital services.

<u>Inpatient Classification</u>	<u>Assigned Relative Value Units</u>	<u>Total Patient Days</u>	<u>Total Patient Service Units</u>
Medical - Surgical	10.0	35,800	358,000
Intensive Care	26.7	3,100	82,770
Obstetrical (includes nursery)	9.3	4,900	45,570
Pediatrics	11.5	3,100	35,650

Source: Will Bishop, "Patient Service Units--The First Step Towards Better Comparisons," Hospital Financial Management, March 1972.

EXHIBIT I: HOSPITAL RESOURCE UNIT MODEL



SOURCE: Eberhard, Michael J., Herkimer, Allen G., Jr., and Uhl, Kenneth, L., "The HRU Measuring Input to Find Productivity," Hospital Financial Management, February 1976.

Unfortunately, few relative value scales have as yet been actually adopted; the most commonly used are the ones developed by the American College of Radiology for reporting radiological procedures and by the College of American Pathologists for reporting laboratory procedures. Most of the newer rate setting programs have incorporated these scales. However, because they were developed by committees of the two colleges solely to serve as a basis for physician charges, rather than for the purpose of establishing standards for measuring departmental productivity, Wolfe and others have questioned their suitability for use in rate setting.²

For example: ³

The American College of Radiology standards tend to inflate the value of simple procedures and underestimate highly sophisticated ones. In terms of income, this RVU system produces substantial revenues for most radiologists. However, it penalizes radiologists performing advanced procedures since only 12 RVU credits might be given for a procedure which in actuality requires 27.

In general, although existing relative value scales are an improvement over simple counts of workload units, most commentators believe that far more developmental work is required if they are properly to account for differences in the time, skills and materials that go into producing different types of hospital "products."

An Output Approach to Rate Setting

Analysts of cost functions in hospitals have demonstrated that differences in the burden of illness brought to hospitals are importantly related to differences in costs. ^{4,5,6} Canadian studies indicate that casemix and patient age variables together explained more than 80 percent of cost differences among all the hospitals in the provinces of Quebec and British Columbia during a recent year. ⁷ *

* Studies of such large universes of hospitals are possible in Canada since there is nationwide reporting of hospital costs according to a uniform chart of accounts and nationwide reporting of hospital patient data according to a uniform hospital discharge system; corresponding data in the United States require considerable special effort to assemble. Thus, the U.S. studies have been confined to small numbers of institutions.

Rate setting bodies and hospitals are becoming increasingly aware of this need to account for casemix, and the corresponding need to generate reports on hospital patients from uniform discharge abstracts or other sources. Both the Maryland and New Jersey programs have issued regulations requiring hospitals to furnish reports based on patient data, and the New York and Massachusetts programs are also involved in developmental efforts. The minimum set of data elements in the Uniform Discharge Data Set (UDDS) approved by DHEW and AHA usually provides the basis for the required reports. Data identifying individual patients are never needed for rate setting purposes. As noted earlier, Rhode Island already employs UDDS information. This reflects the proposition that data on hospital costs, revenues and volumes, however well reported, can give only half of the hospital performance picture. Cost review must be linked to detailed utilization and quality review if there is to be valid institutional monitoring by regulatory agencies in a manner to satisfy the requirements of various public laws now on the books or proposed.

The desirability of an output approach, where payment is made according to adequate treatment of specifically defined illnesses, has long been recognized.* Various models and constructs have been developed.⁸ The common problem has been how to develop patient classes that take proper account of the wide range of possible diagnoses, the different degrees of morbidity and disability that may be present within any given diagnostic class, the frequency of multiple diagnoses, and characteristics of patients such as age, nutritional status, etc., that influence their requirements for care and responses to treatment. Considerable work has gone forward in the development of patient classes, both for patients with acute and long term illnesses.^{9,10} One such system, developed at Yale, is about to be tried by the New Jersey rate setting body on an experimental basis. John Thompson described the rationale for the system and its characteristics at the project's June 1975 conference: 11

* Practical attempts date back to the Babylonian custom of beheading physicians who failed to cure the royal families, and the fabled Chinese system of paying physicians who successfully kept their patients well.

We assume that the control of cost is inextricably linked with the processes of patient care in terms of resource use, and rests upon understanding the patient management process as it is applied appropriately to unique classes of patients. It is not sufficient to deal with utilization review and quality of care as a process separable from the expenditure of manpower, facilities and equipment in delivering that care, or vice versa. Research is going forward to link these three elements of cost, utilization and quality to form the basis for hospital comparisons needed for rate reviews and rate setting.

The critical need is for a method by which hospitals can be characterized in terms of the services they provide to patients and the resources consumed for each delivery incident. What is required is the ability to describe the unique patient care processes delivered by each hospital and to measure the costs incurred in producing this mix of services for patient care.

Basic work at Yale has produced systems to identify patient classes which are medically meaningful and for which resource requirements can be described as a stable set of parameters. A computer program will be used in capturing patient data from each hospital. Files of group statistics characterizing these classes in each institution will be built (AUTOGRP). These include, on a statistical base, the clinical definition of each group (diagnosis, surgery, complications, age and the like) as well as the resources consumed as reported by charges made for each cost center's contribution to each patient episode.

Thirty-five diagnostic groups, accounting for 65 percent of admissions, are employed as tracers. For each of these classes patient management processes have been well defined.¹²

For example, patients with myocardial infarct constitute one such class. Drawing data from patients' medical abstracts, a file is created in each hospital to show the care rendered in these cases, bringing together the patient care utilization in special service units, ancillary departments, OPD and emergency room. Then the cost of operation of each cost center, captured through the uniform cost reporting system, is related to the myocardial infarct patient class file, producing a ratio of charges to actual costs. Thus, the share of M.I. care costs attributable to each cost center can be determined. Thompson describes the application of the Yale system as follows:¹³

With this approach, a state or region will be able to implement equitable rate setting, monitor hospital performance, and at the same time produce and feed back to each hospital the information it needs to review and evaluate its own performance and quality criteria.

Each hospital's output can be defined in terms of the unique classes of patients with which it deals. The cost of each case of hospital utilization is used as a basic building block for measurement of hospital utilization and performance and is the basis for both informal and external comparison and evaluation of such performance. Further, through such information, each hospital, as well as the regulatory agency, is provided with the basic information needed to initiate and carry forward the process of utilization review and quality assessment. Finally, this type of information can be used to project and control the cost of health care delivery as well as the rates charged to various third-party payers or individual patients. Only by linking patient data with the accounting system can these objectives be accomplished.

Whether or not this particular system actually proves feasible and can fulfill the hopes of its designers, it indicates one radically different approach to hospital rate setting that may be just down the road. Once it is recognized that it does no good to compare cost of services by hospital departments if the mix of case is different, and that one must adjust department costs by type of cases served and resource inputs employed in order to set equitable rates, the methodologies for doing so will eventually be developed.

It is interesting to note that in Quebec, where hospital costs and budgets have been subject to external review since 1962, a major shift to incorporate patient data in the process is now also being planned. The Dumbaugh report for our project found this to be the most important impending change in the province's system: 14

. . .where users initially were satisfied to judge hospital performance on unit costs/activity centers. . .now the number of services consumed by the patient in each diagnostic category is considered information necessary for control purposes. Expanding the information system so that it can accomodate such frequent demand for patient data is one of the projects of [the Ministry]. The present patient discharge summary form does provide diagnostic data, but no information on the services consumed by each patient.

A revision of the patient data (hospital discharge abstract) form to make this possible is expected by November 1976.

William Dowling, at the project's Advisory Committee meeting, speculated on the advantages of output assessment combined with measures of change in prices of the goods and services hospitals must buy:¹⁵

By moving to this type of an output assessment of the ultimate reasonableness of a hospital's costs, the regulator will not have to meddle in the internal affairs of the hospital. If he can look at the hospital's casemix and level of input prices and say, "your costs are unreasonable in comparison to other hospitals treating a similar casemix," then it would be left to that hospital to look at why its costs were out of line and to make the necessary corrections. The rate setter would not have to hear about the hospital's lab and X-ray intensity, or departmental productivity, or the RN/LPN mix, or any other input variables. All that would be necessary would be for him to have a precise measure of the kinds of patients treated in the individual hospital, and the salary and wage scales and inflation rates in its area. He could then assess whether that hospital's costs were higher than other hospitals that were treating the same complexity, or diagnostic composition, and severity of casemix.

Another advantage of this approach would be that it takes the rate setter out of the arena of having to define an appropriate length of stay or making implicit or explicit judgments about what services are necessary or unnecessary. All such decisions would be left to the PSROs, planners, and other standard setters.

To set rates according to output measures would, as we have seen, require:

- hospital patient data describing diagnoses, procedures performed and treatments given.
- matching financial data by cost centers
- protocols of treatment and/or criteria such as those recently developed under contract with DHEW's Bureau of Quality Assurance by which other reviewers could assess the quality of care.

Patient Casemix as a Variable in Hospital Grouping

The Colorado and the New York City Blue Cross plans are attempting to employ either tracer casemix intensity variables, based on diagnostic groupings, or overall casemix intensity variables in hospital grouping methodologies currently under development. These are regarded as key indicators of differences in hospitals that impact on the cost of providing hospital services. The Department of Social Services in Colorado may also move in this direction as it develops a new prospective reimbursement system under its planned Medicaid Management Information System (MMIS). A memorandum describing the program, still in the preliminary planning stage, states the intention of identifying those tracer cases which explain the large portion of the overall intensity of casemix in an individual hospital, and requiring the hospital to provide the percentage of cases of its overall casemix which fall within these various tracer diagnostic categories. This casemix intensity variable would be used in conjunction with variables of service type, SMSA/nonSMSA; teaching; number and type of medical specialists in the hospital and region as well as several other hospital characteristics and locational characteristics to match hospitals for budget screening purposes.¹⁶

Closer Attention to Utilization

Rate setting programs that place major emphasis on lowering the unit costs of hospital services, as already noted, penalize hospitals with low occupancy rates since they have a high ratio of fixed to variable costs. This creates incentives to increase volumes of service which, while lowering unit costs, may increase total expenditures by those who pay the bills. A trustee of one large New York hospital told the author:

It makes me feel terrible to have to call in the chief of the medical staff and ask him to spread the word to beef up admissions. But it's the only way the hospital can survive under this rate system.

The evaluation study of rate setting in downstate New York indicates that such responses may not be unusual; admissions rose at a higher rate in that region since the programs have been in effect than they did in the control hospitals. (While average length of stay declined, as in the rest of the nation, it did so at a lesser rate than in the control hospitals.)¹⁷ Similarly, the rates calculated on budget projections will yield higher total revenues than anticipated if the hospitals' actual volumes of service exceed those that had been projected. To close such escape hatches, it can be anticipated that in the future rate setting programs will attempt to monitor hospital volumes more and more closely during the course of the projected rate year, and to adjust rates accordingly. The Rhode Island Blue Cross program pioneered in volume adjustment methodology and receives monthly monitoring reports of both outpatient visits and inpatient admissions and patient days by service, as well as summaries of discharges and lengths of stay from the hospitals' PAS reports.¹⁸

Unless we can move to the type of rate setting Dowling described earlier, the next logical step will be to venture into territory heretofore out of bounds to rate setters, and to question the appropriateness of utilization practices. As noted earlier, Rhode Island, with its access to patient data, is already doing so. If the pressure to contain costs is sufficiently great to force them to move in these directions, rate setting programs will need to establish closer communication with PSROs, who have the responsibility for decisions on the appropriateness of patient management practices. To our knowledge, no programs have as yet established formal connections with PSROs, although feelers have been put out in this direction by at least four state commissions - Connecticut, Massachusetts, Washington and New Jersey.

New Questions as to the Best Allocation of Scarce Resources

Some other types of changes may be on the way that reflect changing perceptions of the future role of hospital rate setting itself, fostered by a new realization of the need to respond to national, state and Blue Cross fiscal imperatives. Given the ever-rising share of health care in general, and hospital care in particular, as a percentage of the Gross National

Product, it is likely that some sort of ceiling limits will eventually be set. As Gordon Cumming stated during the project's Advisory Committee meeting: "Now the issue becomes one of good services and good value - or how to get the best bang for the buck out of the hospital industry."

As noted in the introduction to this report, initial expectations that rate setting bodies might contain hospital cost increases by the price mechanism have not been realized. Such far as has been squeezed out of their budgets by detecting inefficiencies reflected in excessive costs per unit of service has not significantly moderated the spiraling rate of expenditures. Now, state governors and federal officials are beginning to expect rate setting bodies to shift their emphasis to influence trends in these overall expenditures, e.g., price times volume, following the Rhode Island model. Some see rate setting and reimbursement controls, if deployed wisely in conjunction with planning and utilization review mechanisms, as a means to begin to influence the distribution and use of health resources according to principles of cost effectiveness from the perspective of community need. To accomplish this calls for new types of data and a quite different perspective of analysis.

At one level it calls for rate setting, utilization review and certificate of need agencies to operate under common policies that define the kinds of system changes that are to be worked for. This might, for example, include the phasing out of particular hospitals and services in certain areas of oversupply, such as has recently been recommended by the Mayor's Task Force in New York City, or that might grow out of HSA appropriateness reviews under section 1513 (g) of P.L. 93-641. In such circumstances, the HSA, guided perhaps by reports of utilization review, licensing and quality monitoring agencies, might identify the institutions whose continual operations do not appear to be justified. The rate setting body might then gear its actions to ease the phasing out. Conversely, when institutions propose new facilities and/or services, or where the community's need for them is identified by planning agencies, the rate setting agency can provide economic impact analyses. It could perhaps go farther to suggest

kinds of tradeoffs that could be negotiated to keep total expenditures for an institution, or for all hospitals within a region, unaffected by the change. Two of our project working papers reviewed in some detail the existing types of communication between certificate of need and rate setting and reviewing agencies in several states - Arizona, Connecticut, Maryland, New York and Rhode Island - finding considerable variation in the nature and strengths of the connections, but noting increasing movement towards cooperative activities.^{19,20}

Finally, although information to describe the quality of hospital care and patient outcomes is only rarely sought by rate programs at the present time, and would of course always be generated by other agencies, when planning for the future it would be remiss not to make provision for the eventual inclusion of such information for rate setting decisions. As resources for health become more limited, and as the public begins to hold reimbursement agencies accountable for assuring the best value for health dollars spent, the present separation of utilization reviews and medical audit profiles of hospitals from hospital cost profiles will of necessity become less sacrosanct. The 1975-76 Moreland Commission's investigation of nursing home abuses in New York, for example, specifically criticized the rate setting body for making rate decisions not related to existing reports on poor quality of care provided.²¹ The recent investigation of Medicaid mills by the Subcommittee on Long Term Care of the Senate Committee on Aging also reprimanded Medicare officials for divorcing consideration of the quality of patient care from reimbursement.²² As we have seen, however, no regular flow of information now comes to rate setters from PSROs, and medical audit systems jealously guard the confidentiality of their reports. Even reports of accreditation status are received only irregularly by many rate setting bodies.

FOOTNOTES: SECTION 2

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SECTION 3: THE MEDICARE COST REPORT AS A RESOURCE FOR FEDERAL RATE SETTING AND FOR PROGRAM ACCOUNTABILITY

Were Congress to give the federal government the responsibility for determining hospital rates under the Model 1 option, the same types of data would have to be available on a national scale as those required by state rate setting programs. Thus, a national rate setting program would depend on flows of data items reported by hospitals according to some standardized format. In order to provide accountability, the same type of standardized reporting would be required if hospital rates were to be established by states under federal guidelines, following the Model 2 option, although a much smaller number of standard data items would be needed.

There is only one existing source of nationwide comprehensive data on hospital financial and cost characteristics, the Medicare cost report (MCR). This section reviews the MCR from the standpoint of its potential usefulness for rate setting and/or program monitoring.

The Medicare cost report was designed as an instrument for administering cost-based reimbursement. It was not intended to serve any other purpose. Given this fact, the question is whether it could be adapted to the uses of prospective rate setting. Based on Rowland's analysis, we will briefly review the MCR's purpose and content and the present flow of its data to provide background to the discussion of this question.¹

The Medicare Cost Report

The Medicare principles of reimbursement, as determined by the Social Security Act and the regulations promulgated under that Act, define the costs of a hospital that are allowable for reimbursement for services rendered to Medicare beneficiaries under Part A. The cost report is the basis for this retrospective determination.

The provider is required to furnish all information requested in the cost report by virtue of the authority granted to the Secretary of DHEW under section 1814(b)(1) of the Social Security Act (42 USC § 1395f). If the provider does not provide all or any of the requested information, the cost report can be considered incomplete and not acceptable for claiming reimbursement under Medicare.

The Medicare regulations and the worksheets in the cost report related to these regulations establish the means by which the provider is:

- to separate costs allowable under Medicare from non-allowable costs
- to allocate the costs of non-revenue producing centers to the revenue producing centers, and under the step-down method, to each other (cost finding)
- to determine the share of total costs which are attributable to Medicare patients and therefore payable from Medicare (cost apportionment)

The cost of Part B services provided in the hospital must also be separated from service costs covered under Part A. A specific reporting form is provided for each of the determinations or adjustments required in the regulations. The worksheets for hospitals cover the following areas:

- statistical data
- reclassification of and adjustment of trial balance of expenses
- adjustments to expenses
- administrative and general expense
- dietary expense
- medical-surgical expense
- laboratory expense
- depreciation
- statement of costs of services to related organizations
- statement of compensation to owners

- statement of compensation paid to administrators other than owners
- cost allocation - statistical base
- cost allocation - general service costs
- cost apportionment - dietary
- departmental cost distribution - statistical bases
- departmental cost distribution - patient care costs
- computation of inpatient routine service cost
- calculation of reimbursement - settlement - inpatient service
- calculation of reimbursement settlement - Title XVIII, Part B
- optional calculation of percentage of bad debts for outpatient services applicable to professional component of hospital-based physicians - combined billing
- computation of inpatient ancillary services covered by Part B
- apportionment of remuneration for professional services rendered by hospital-based physicians applicable to the health care programs
- summary of remunerations for professional services rendered by hospital-based physicians applicable to the health care programs
- cost apportionment of ambulance services rendered by the provider
- Calculation of reimbursement settlement for interns and residents not under approved teaching programs - supplementary cost form
- cost per unit of service (eliminated from later forms)
- balance sheet for computation of equity capital
- computation of return on equity capital for proprietary providers
- apportionment of allowable return on equity capital of proprietary providers.

The types of data that are reported in the MCR's package of schedules have already been outlined (see Exhibit B, Section 1). While not as elaborate as some of the later generation state rate setting programs' cost/budget reports, the MCR nevertheless contains a wealth of information.

The Flow of Medicare Cost Report Data

One great problem with the Medicare cost report at present is the length of time between the point where the hospital enters its cost data and the point at which this data can be used for statistical analysis.

Each of the approximately 6,800 hospitals in the United States that participates in the Medicare program submits to the fiscal intermediary in its area an MCR for the costs of each fiscal year. Naturally, it does so only after all books from that fiscal year have been closed - some months later. The intermediary then submits it to desk review and audit, and then analyzes it in accord with SSA's detailed principles of reimbursement to determine "reasonable cost," calculate cost allocation, etc. The process is a lengthy one, often involving numerous consultations between the hospital and the intermediary, followed by changes and adjustments. Each party wants to be sure that the correct reimbursement is calculated. The hospital has already received interim payments from the intermediary; the cost report merely serves as the basis for upward or downward adjustments in final settlement. Because the fiscal intermediaries have no occasion to use the data on the MCRs for comparative analysis, few undertake the expense of entering the entire report into computers, although they may process selected items.

SSA receives the cost report (in hard copy) only after the hospital and the intermediary have reached a final settlement. This usually takes about two years but may sometimes be as much as five years after the hospital's fiscal year ends. In theory, selected items are then abstracted by SSA for coding and then transferred to computer tapes. The items to be abstracted include statistical data, computation of inpatient routine service cost, calculation of reimbursement settlement, renumeration of hospital-based physicians, and balance sheets for computation of equity capital. The purpose of the analyses to be generated from these data, according to a DHEW Audit Agency report (13-50001), is to:

- supply current statistically sound data for responding to specific requests for cost information;
- evaluate the Medicare program's share of total hospital costs;
- generate recurring reports to Congress regarding program costs;
- establish standards for identifying provider costs in need of further investigation.

In practice, however, due to long delays in the abstracting and processing of the MCRs at SSA, such reports are not forthcoming. As of the time of Rowland's interview in the fall of 1975, the last reports to have been abstracted and processed had been submitted to SSA prior to March 1973.

A few examples will illustrate how these various delays in the flow of cost reports restrict their usefulness to those who need cost analysis to inform program and policy decisions. When hospital wage and price controls were being designed for the Economic Stabilization Program, economists could not secure the up-to-date MCRs they needed to enable them to make cost and productivity trends and analyses. Similarly, delays in processing of the MCRs greatly reduced their usefulness to SSA's Office of Research and Statistics (ORS) when analysts there sought to employ them as the basis for constructing the hospital classification systems for section 223 of P.L. 92-603. To carry out the task, a special sample had to be secured from the fiscal intermediaries and be processed by a consultant firm, Applied Management Systems. Again, ORS was unable to use the MCRs to conduct the only planned longitudinal study of the impact of Medicare on hospitals.*

*In a baseline period before the program went into effect, 1962-66, Karen David and Richard W. Foster had analyzed the revenues and expenses of a sample of 400 hospitals based on specially solicited financial statements. For the follow-up post Medicare period the plan was to use the Medicare cost reports for these same hospitals. However, it proved impossible to locate and secure these reports. Instead, in the end, the hospitals had to be asked to supply their financial statements, as before.

If the federal government were not to delegate rate setting responsibilities to fiscal intermediaries under the Model 1 option but undertake to set rates directly for each of the nation's hospitals, SSA's new tasks of analyzing the individual reports would clearly be far beyond its present capabilities to execute.

Were Congress to mandate the Model 2 option, placing rate setting responsibilities with state governments under federal guidelines, under some types of possible payment systems the full set of MCR data might no longer be needed at the federal level. State programs might wish to obtain greater or lesser cost detail, depending on their particular objectives and rate setting methodologies. However, the federal government would still require a carefully selected set of data items that would be standard across all state programs to provide a means to compare performance of these programs and to monitor their effects. Although somewhat different data items from the MCR might be identified as more suitable for providing rate setting accountability than those selected in connection with cost-based reimbursement, some means would have to be found to obtain this subset of hospital cost data in a timely fashion.

The problems that would be encountered by a federal agency if it tried to use Medicare cost reports, as now produced and processed, for routine monitoring of state rate setting programs have become apparent in the course of SSA's contracts for evaluation studies. As will be seen, such difficulties extend far beyond the question of MCR availability and access.

Lessons from SSA's Recent Evaluation Study

Evaluations of seven different rate setting programs have recently been conducted by a number of consultant firms and a university-based group under contracts with the Social Security Administration. Each of these projects attempted to identify differences between hospitals in a particular rate setting program jurisdiction or area and matched control group hospitals outside of that area. Thus, most of their data had to be acquired across

the boundaries of particular states, as would federal monitoring of intermediary or state rate setting performance under either Model 1 or Model 2.

The projects attempted to identify differences between the test and control group hospitals along several dimensions. Besides plotting and comparing trends in per diem costs or charges and costs per case, the usual indicators by which state programs measure success, they sought to relate these prices and cost-trend differences to factors such as changes in the hospital's scope of services, patterns of admissions and lengths of stay, productivity, quality of care, and hospital financial status. When possible, changes in hospital casemix in the rate setting study hospitals and the control hospitals were also examined.

To perform evaluations properly required assembling from all study hospitals commonly defined and recorded data on the same items reported in common categories. However, because routine reports of the data they desired were not available from the states in any sort of comparable form, they had to rely principally on the Medicare cost reports for each of the study and control hospitals to obtain data for their studies.

The evaluators encountered problems not only in obtaining access to the MCRs, but once obtained with their legibility, lack of coding, and the lack of completeness and reliability of the reporting. Although the evaluations were made of hospital cost performance during a time period several years prior to the studies, the MCRs were not available from SSA itself; copies had to be obtained from the fiscal intermediary of each area. The xerox copies from which the study analysts worked were often barely legible.

Many different factors served to weaken the reliability of the data from the reports, both in respect to trend data for an individual hospital and in respect to comparisons among hospitals. These will be reviewed in some detail in Section 6, to follow, but can be summarized here. First, the organization and context of the MCR is subject to constant change in response to new laws that Congress passes and new regulations that DHEW

promulgates. This in itself creates serious obstacles to trend analysis. Second, the evaluators report that certain data elements are reported so infrequently or so inadequately as to seriously jeopardize their potential usefulness. Third, hospitals are allowed to substitute an audited CPA financial statement for the MCR's recommended financial report. Not only does this difference in format again cause serious coding problems, but the content of the financial data reported may also differ from one hospital to the next. Other problems of data quality can be summed up by observing that differences in definitions of cost centers and reporting among hospitals and within the same hospital over time seriously impede efforts at valid performance comparisons.

The only other source of national data that the evaluation studies could use was the AHA Annual Survey. Because the data were on tapes they were much easier to work with. However, as with MCR's, reporting categories, especially those that report the scope of hospital services, often change from year to year, again complicating efforts at trend analysis.

These two report sources provided most of the data available on a routine basis for tracing trends in costs, utilization volumes, scope of services, and statistics on labor and supply inputs in the test and control group hospitals. In addition, some but not all evaluation projects were able to use casemix and length of stay data derived from uniform discharge abstract systems, despite the unevenness in hospital participation in such systems. Some programs were also able to secure trend data on JCAH accreditation status as part of their effort to measure the impact of rate setting in quality of care. No medical audit reports were obtained. In general, the measures of quality changes employed were considered weak by most of the analysts.

Most projects designed questionnaire surveys to capture types of data not otherwise reported and/or to test the reliability of the data in other reports. Questions were usually included to ascertain hospital spokesmen's perception of changes in quality of care.

In summary, whatever these SSA evaluation studies are able to report about the success or lack of success of the individual rate setting programs they studied, they have in the course of their work conclusively demonstrated that the MCR and other existing sources of data, as they stand, cannot be expected to provide routine accountability of the results of rate setting program performance under either Models 1 or 2. Weaknesses stem from the lack of timeliness, completeness, accuracy and reliability of the data reported in the Medicare cost report. Changes in the categories of the report forms over time create other types of obstacles. Patient casemix data are available only in a spotty fashion. Many other types of required data have to be painfully assembled de nova from surveys. Appropriateness of care profiles, quality and patient outcome measures are for the most part either entirely absent or are inaccessible. Each of the SSA evaluation studies required the mounting of special studies and substantial budgets.

FOOTNOTES: SECTION 3

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SECTION 4: IMPROVING RESOURCES FOR MONITORING

In the previous section we noted some of the problems recently encountered in attempts to evaluate the effects of rate setting programs, focusing principally on the limitations of the Medicare cost report as a source of hospital cost data. Here, after briefly reviewing the several different types of purposes that need to be served by a continuing monitoring capability, we will describe some potential improvements in hospital cost data that may make it easier to learn the impact of rate setting in the hospital economy. We will then discuss how such data could be more systematically related to population-based data on utilization and health facility resources, both as a means for detecting possible sources of excess costs and for providing an early warning system against possible counterproductive responses to rate setting.

The Purposes to be Served by a Monitoring Capability

The overall purpose of monitoring, as we define it here, is to inform both policymakers and all the immediate actors concerned (government agencies, the public, hospitals, rate setting programs, third-party payers, etc.) of changes taking place - whether desired or undesired - that appear to be associated with the new federally mandated hospital rate setting program presumed to be on its way.* Prompt feedback would be necessary under either the Model 1 or the Model 2 option to alert all parties to the

* The administrative processes of the rate setting and reimbursement programs under either Model 1 or Model 2 will also, of course, require close supervision. However, except for noting the types of data generated for these purposes, we shall not discuss these types of activities. Functions such as checking the entitlement of persons to receive services, certifying hospitals to provide those services, keeping watch over the speed and accuracy with which claims are processed and paid, detecting fraud and abuse will continue to be carried out whether reimbursement is prospectively or retrospectively based.

need to reexamine current procedures, policies and, if necessary, laws. To be useful, the monitoring system should:

- examine facts and relationships that are relevant to the stated objectives of the enabling law, and to the interests of the public, the policy makers, and the industry affected;
- produce reliable, relevant information at the time when it is needed.

Thus, a good system should first be able to check on the results of rate setting in terms of whatever overall objectives Congress may set for it, according to the measures of progress towards those objectives that will in the future be identified. For purposes of this discussion we will assume that the federal government and/or state governments will themselves be held accountable through the political process for controlling not only the rate of increases of hospital charges and/or per diem rates, but also, more importantly, the increase of hospital expenditures as a percentage of the GNP. We also assume that rate setting programs will be expected to set rates that meet the financial requirements of hospitals that render needed services in an efficient and effective manner, except as deliberate decisions are reached on facility of service closings on the basis of planning/licensing/certification reviews. Finally, we assume that rate setting programs will be expected to encourage cost-effective spending, not just changes in hospital price tags without regard to changes in the nature and quality of the product.

In our opinion, a monitoring system for rate setting should also alert legislators and agency heads to the many possible types of counter-productive consequences that might be set in motion by a change to a new reimbursement method. New regulatory policies and procedures can be counted on to call forth new responses on the part of both providers and consumers that are too rarely anticipated.

These various purposes to be served require access to timely cost data and an ability to analyze them in various relations to utilization, service intensity, and various other factors. We will consider first the question of improving access to suitable cost data.

Recent Efforts by SSA to Secure Better Cost Data

The Bureau of Health Insurance is now planning a new Limited Data Abstraction Program to permit more timely analyses of the MCR data. Here, the fiscal intermediary would abstract about 80 data items from each cost report immediately after desk review, without waiting for the final settlement process to be completed. The abstracts would then be immediately transmitted to SSA for processing. Since the new 1975 MCR form is, for the first time, precoded, prompt automation of the abstracted items would be facilitated, particularly if SSA were to put a high priority on prompt completion of this task.

In the meantime, frustrated by their attempts to obtain up-to-date cost reports from within SSA, in 1975 the Office of Research and Statistics secured copies of the annual Medicare cost reports of a sample of 1200 providers for fiscal years 1971, 1972 and 1973 directly from the fiscal intermediaries. Under the contract between ORS and Applied Management Sciences previously noted, the 3600 reports from these hospitals have been abstracted and processed. The data will be used in several ways: simulations to see which types of hospitals would be affected, and how, by proposed legislative changes in reimbursement policies such as the 1976 Talmadge bill; simulations of different grouping options that might be substituted for the present classification employed for section 223 ceiling limits on Medicare payments; regression analyses to seek explanations for variation in cost per patient day for routine inpatient services and total costs. All such efforts contribute substantially to the development of a monitoring system for future hospital rate setting.

At its best, however, the MCR does not include many indicators of hospital productivity required for third generation (unit cost) rate setting, nor does it permit sensitive monitoring of the financial status of hospitals. To remedy these lacks, ORS has contracted with the American Hospital Association to expand one component of its ongoing economic monitoring system, the National Hospital Panel Survey. This contract for

the expanded panel system will be described in the context of the AHA's overall information system, most of whose components have already been referred to in this report.

The American Hospital Association's Information System

The American Hospital Association's Annual Survey and its program for monitoring the hospital economy provide important resources for tracking changes within the hospital industry. AHA's reports are issued on a highly current basis.

Operating since 1946, the Annual Survey has long constituted the most comprehensive compendium of data about U.S. hospitals. Approximately 6,600 hospitals, 92 percent of AHA registered hospitals, fill out a questionnaire for the Annual Survey. It contains over 100 items. When published in AHA's annual volume, Hospital Statistics, the analyses constitute the nation's principal source of information on hospital capacity, programs, and utilization. A 46 item checklist of special facilities and services is included in the survey form. The survey also collects data on certain manpower inputs, such as RNs and LPNs. Reports are organized by type of control (community, non-profit, governmental, proprietary), by hospital bed size, and by state and county.

A 1975 report of the American Hospital Association listed the kinds of information that would ideally be contained in an economic monitoring report on any industry. It would contain data on the following activities:¹

- Output
- Expenses
- Revenue
- Financial Position
- Capacity
- Unit Costs
- Prices
- Employment
- Wages
- Productivity
- Utilization

The Association presently collects all these types of data in one or another of the components of its economic monitoring program, the National Hospital Panel Survey (NHPS) and the Hospital Administrative Services program (HAS). NHPS is a survey of the financial and utilization status of community hospitals that has been conducted for 12 years, but which was considerably expanded in 1973 as a means of monitoring effects of the federal Economic Stabilization Program, using a stratified sample of 1000 hospitals. Each hospital in the panel answers a 36 item questionnaire covering the following items for the immediate past month:

Beds and Bassinets - 2 items

- number of bassinets set up and staffed for use
- number of beds set up and staffed for use

Utilization - 9 items

- Inpatient - admissions; days
- New born births; days
- Outpatient visits emergency; clinic; referred; total
- Total surgical operations

Finances - 20 items

- Revenues - net inpatient; net outpatient; total net revenue from patients; other; total net revenue
- Expenses - payroll (excluding interns, residents, employee benefits)
- Employee benefits
- Interest expense
- Depreciation expense
- Other, and Total
- Total

Current Assets - all nonrestricted funds - 5 items

- Cash
- Temporary investments
- Accounts receivable less allowance for uncollected debts
- Other, and Total

Current Liabilities

- Accounts payable
- Notes payable
- Other current liabilities; and total current liabilities

[continued]

Personnel - number regularly employed excluding trainees - 3 items

- Full time
- Part-time
- Total

Utilization Age 65 and Over - 2 items

- Admissions
- Inpatient days

Turnaround time between the collection of the data and analysis is from two to four months depending on the item. Reports on a variety of computed variables from the NHPS are regularly published in the Hospital Indicators section of Hospitals.

One major limitation of NHPS from the point of view of rate setting program monitoring has been that up to now the sample size has not permitted disaggregation to the state level. Under the new contract with SSA's Office of Research and Statistics, the AHA hopes to expand its monthly NHPS panel from 1000 to 2000 hospitals. AHA is currently recruiting; as of this writing about 1,600 hospitals have agreed to participate. Although ORS will not be given the hospitals' names it will know the hospital size and location by county, and thus will be able to relate analysis to county specific socioeconomic and demographic data. The present NHPS questionnaire will also be greatly expanded. The new instrument will retain the present revenue, expenses, current assets and current liabilities questions but will also request a variety of inpatient and outpatient utilization and salary expense breakdowns by hospital service units, adding about 65 new data items. Both AHA and ORS hope that the expanded NHPS will create a data base and information retrieval system that will allow greater availability and/or increased utilization of services to be related to hospital costs and prices. If this goal is realized it would then be possible to disaggregate hospital cost and price increases in various components such as increased service intensity or unit input costs.

A major rationale behind the ORS contract with AHA is the hope that NHPS will provide an historical data base for rate review activities

that might be initiated in the future. The expanded panel will for the first time allow reliable state estimates of the values of most of the variables contained in the questionnaire and thus should provide a valuable tool for monitoring. The AHA also operates the Hospital Administrative Services (HAS) program. Since HAS data do not derive either from the entire universe of U.S. hospitals or from a scientifically drawn sample, it is more useful to individual institutions than to external monitoring agencies.

The AHA has recently developed a National Hospital Economic Activity Report based on variables from the NHPS but with a few additions from HAS. It employs time series to yield indicators on output, unit costs and unit revenue; inputs and factor prices; and on the financial position of hospitals.

AHA is currently developing a means of monitoring changes in the prices of the non-labor inputs to hospital services - supplies, equipment, insurance, etc. using components of existing indexes. It is also developing a new output price index. Both efforts are taking place under provisions of the ORS contract, and are being designed to provide more sensitive measures of change in hospital prices than can be currently provided by the Consumer Price Index.*

A fundamental gap in the AHA information system lies in the absence of any data to relate its very extensive data base on hospital service, resource complexity, inputs and overall utilization data to data on patient casemix and complexity, and types of procedures performed. As the most obvious example, a high nurse manhour/patient day ratio might represent efficient, appropriate deployment of resources in a hospital where major

* The hospital service charge component of the Consumer Price Index is commonly used as an indicator of movements in hospital prices. It is based on a small number of items: semiprivate room rates; operating room charges; X-ray diagnostic services, upper G.I.; laboratory tests, urinalysis; anti-infective; tranquilizer; EKG; physical therapy; oxygen and IV solution.

reconstructive surgery, open heart surgery, etc., comprise a high proportion of its total surgical procedures. Yet in a basic service hospital the same ratio might represent a source of excess spending. Thus, although the AHA economic monitoring system may permit better tracing of the association of rate setting programs to changes in the financial status of hospitals and the intensity of their inputs, it will not enable an external reviewer to trace changes over time in the nature and intensity of care delivered to patients with the same types of medical needs. This is a serious shortcoming if the overall objectives of rate setting programs are to encourage more efficient provision of services without diminution of their quality.

Population-Based Monitoring

The need for population-based evaluation and monitoring was a constant theme that ran through many of the project's activities. During the June 1975 conference, John Thompson of Yale observed that the most serious shortcoming of present capabilities for evaluating hospital rate setting is that trends in hospital utilization and expenditures can rarely be constructed or traced through time according to principles of "financial epidemiology." Jennifer Robbins, in her working paper, Uses of Population-Based Data for Rate Setting, and Gordon Cumming in his statements to the project's Advisory Committee meeting in May 1976 both stressed that we need to make a radical departure from the traditional means of measuring the efficiency of hospital services, and, conjointly, the effectiveness of rate setting programs. If we are to produce the kind of information the public and policymakers need to allocate scarce resources, we must begin to look at expenditures for and utilization of health care services from the perspective of the population eligible for services--not solely from the perspective of the institutions that deliver those services.

In population-based monitoring systems the denominator can be either the residents of some defined geographic area or persons enrolled in beneficiary programs. Several types of data are essential for the analyses of the relationship between cost and utilization of health care and health,

including:

- the population of the hospital service area;
- indicators of health status in this population;
- the services it receives;
- the resources of the system and their utilization;
- expenditures.

Exhibit J, adapted from a fuller listing by Jennifer Robbins, suggests the breadth of the scope.

Monitoring to Identify Possible Sources of Excess Costs. Population-based analysis can display the rates at which different communities or regions receive certain types of services, such as elective surgery, and their costs. Results may be startling. Robbins cites Wennberg's Vermont study that examined the tonsillectomy rates of populations living in different hospital service areas throughout the state, both according to tonsillectomy days in a hospital and according to average lengths of stay.^{2,3} In a three year period, 1969 - 1971, the tonsillectomy day rates in Vermont's different service areas ranged between 19 and 289 days per 10,000 persons, age adjusted--a greater than fifteenfold variation. Since the length of stay varied just twofold, from 1.2 to 2.4 days, the principal explanation of the difference lay in the physicians' initial decisions to operate.

This same example illustrates the strategic role physicians occupy in the determination of hospital costs. Estimates were made of the cost variations for tonsillectomy (still the most common cause of hospitalization for children and the most frequently performed surgery in the United States). The area in Vermont with the lowest rate experienced an annual per capita cost of sixty-three cents; the highest, \$5.69 per capita. Calculations showed that if every community in the state had received tonsillectomies at the lower rate during the study period the total annual cost would have been \$335,050. At the higher rate the cost to Vermont people would have been over \$3 million.

EXHIBIT J: SOME ELEMENTS OF A POPULATION-BASED DATA SYSTEM
FOR MONITORING RATE SETTING PROGRAM EFFORTS

I. DEMOGRAPHIC DATA

Uses: Denominator for utilization rates
Standardization and comparison
Socio-economic descriptions
Growth trends and projections

Types or

Sources: U.S. Census
State or regional population projections
Vital data (births and deaths)
School census

II. RESOURCE DATA

Uses: Description of providers or producers of services

Types or

Sources: Manpower--physicians by specialty, location type of
practice; other health manpower
Facilities--hospital characteristics, capacity;
control; location
Hospital Services--scope of special services offered

III. UTILIZATION DATA

Uses: Description of product or output of system

Types or

Sources: Hospital Services Discharge Abstracts
Ambulatory Services Claims Forms
Billing Systems

IV. EXPENDITURE DATA

Uses: Estimation of costs by service and population

Types or

Sources: Hospital costs reports; budgets; third party payers

V. OUTCOME OR HEALTH STATUS DATA

Uses: Evaluation of effects associated with changes in the
delivery or payment systems

Types or

Sources: Vital Statistics - mortality rates by age, sex, cause
of death
Population Surveys - morbidity rates

What is the proper rate for such procedures? Do the children in the low tonsillectomy rate areas experience more sickness or suffer more? Do the children in the high rate areas lose these organs unnecessarily? Those who monitor the system are in no position to answer these questions, but they can certainly, on the basis of potential savings alone, use such comparative data to create pressure, incentives or demands that clinicians and epidemiologists conduct such evaluations. Thus, with appropriate linkages to peer review organizations or others charged with overseeing the quality of care delivered, rate setters may, through population-based analysis, begin to exert a significant influence on expenditures.

Three sets of information were necessary to permit the kind of analysis described above: utilization data; cost data; and demographic data. A population-based data system linked them. Using hospital discharge abstracts or claims forms, services to each patient are tabulated so that each one can be assigned to the population of the geographic area from which the patient came.

Institutional indicators of performance do not explain the variations in utilization or cost experienced by the different populations illustrated above. Robbins cites another Wennberg study, using data from Maine, that specifically compared population-based and institutional indicators of hospital services.⁴ Comparisons of average length of stay, percent of occupancy and bed turnover rate--the usual measures of hospital efficiency--showed an expected range of relatively minor differences among most of the areas. Yet when two areas that were highly similar according to these traditional measures were compared according to population-based patient days of care, utilization in one was nearly double that of the other, and the per capita expenditures there were more than a third higher.

Generally speaking, population-based analysis is most useful as a way to flag exceptions, draw comparisons, or identify trends. It asks questions more often than it provides answers, but the questions it raises are powerful. Robbins comments:⁵

The evidence that utilization rates differ widely between communities cannot be ignored. Rather, the reasons for such difference and measurement of their outcomes in terms of costs, reduction in pain, reduction in morbidity or increased function for people should be rigorously examined so that explicit choices can be made for more or fewer resources.

Because, as Bernard Forand succinctly observed at the project's Advisory Committee meeting, "What's the use of worrying about how efficient a service is if it isn't needed in the first place?"

Monitoring the Effects of Rate Setting on Utilization. Population-based monitoring is useful not only for discovering possible sources of excess costs, but also for providing an early warning system on changes that may be made in hospitals as regards patient admission and patient management policies and practices in response to cost containment efforts by rate setters. Hospitals could respond to rate setting programs that put major emphasis on control of unit costs in undesired ways. Once they have identified and eliminated the "easy" excess costs - the presumed fat in their operations - if rate setting pressures continue they could satisfy by:

- encouraging increased volumes of admissions, tests and patient days
- discouraging admission of seriously ill patients whose care is costly, encouraging admissions of simpler cases - i.e., creaming.

Creaming might also be an expected response to cost containment that takes the approach of setting absolute limits on increases in hospital expenditures.

Population-based monitoring would reveal trends in these directions. For example, it might be found that a population's rate of elective surgery days in hospital was rising steadily in a rate setting area at the same time that its days of care for treatment of serious illnesses was declining. Monitoring might also discover that overall volumes of tests were increasing at the same time that casemix was becoming simpler.

Such monitoring might also reveal differences in the responses of hospitals in different areas of the rate setting jurisdiction, or among

different types of hospitals. In all cases, statewide changes in population utilization of hospital services should, of course, be analyzed in relation to changes in hospital facilities and resources and to trends in hospital costs, productivity, solvency, and other aspects of the hospital economy monitored through the National Hospital Panel Survey or other such systems that may develop in the future.

At the same time, it should always be recognized that hospitals operate in widely different state and local environments in which a multitude of factors other than the rate setting program constantly interact to influence both utilization and costs. Therefore, interstate comparative analyses and trend analyses of hospital performance on these dimensions would be best used for targeting areas for closer study, rather than for triggering overhasty policy changes.

Data Systems to Permit Such Monitoring

Responsibility for bringing together and analyzing the variety of data files that are required for the type of monitoring we have described can be centered either in a specially developed health statistics system or in the research arm of an agency that administers health and health related programs. At the present time there are examples of each.

Cooperative Health Statistics Systems (CHSS). The Vermont and Maine studies described above were made possible by the linking of data collected in state statistical systems developed under the aegis of the National Center for Health Statistics. The National Center's CHSS program funds the development of most of the data components required for broad system-related monitoring, i.e., health facilities, hospital patient care data (uniform discharge abstract), health manpower, ambulatory care, long term care and vital statistics. These are related to population data from the U.S. Census

and other sources. Since all states in the CHSS program collect minimum data sets for each of the above components, with standard data elements that follow standard definitions, a capability is being developed that could in the future permit population-based comparisons of hospital cost/services/utilization relationships across states. However, at the present time CHSS has no hospital cost data component--data on health care costs and expenditures must still be collected ad hoc for studies such as those cited above. Also, of the few states with fully developed patient care data components, only one, Rhode Island, now has a rate setting program.* In short, although state statistical systems offer an exciting potential for monitoring the effects of rate setting programs in relation to a total state population base and defined subareas, considerable development work must go forward before this potential can be realized.

The Medicare Data Files. The Office of Research and Statistics of the Social Security Administration has always been responsible for overall SSA program monitoring. It has access to a variety of files that constitute a potential resource for population-based monitoring of federally mandated rate setting programs, with people enrolled in the Medicare program as the reference population. While Medicare beneficiaries are, of course, in no way representative of the general population, the program covers all states and its administration requires the collection and computer processing of a wide variety of data. The kinds of systems now being designed and implemented by SSA's Office of Research and Statistics to monitor the costs and utilization relationships within the present program would certainly continue to monitor those relationships if a shift were made to rate setting, or if SSA's data infrastructure were to be expanded to support a new national health insurance program. The project working paper by Rowland reviews in comprehensive detail the SSA data files presently available for such

* As was noted in an earlier section, no doubt because of this special capability, Rhode Island is the only rate setting program that takes any cognizance of the patient management factor in its rate setting methodology.

purposes.

There are a number of basic SSA record systems, developed for operational purposes, that when linked provide a unique basis for the kind of monitoring and evaluation we have described. Unfortunately, due to problems of timeliness in the flows of some of these data, such as were described in the preceding section, the rich potential from such linkages has barely been tapped. Recently, the Office of Research and Statistics has made substantial progress towards remedying this situation. Before describing these new types of analyses, we will review some of the basic SSA files now used for hospital analyses, excluding for the moment further considerations of the Medicare cost report component:

- The health insurance entitlement file is created to identify each person in the United States who is eligible for the Medicare program. For this purpose, a record is created for each individual that includes his age, sex, race and place of residence, and which keeps current the type and number of benefits to which he is entitled.

This file furnishes the denominator base for computing a variety of rates and forms the basis for special population related studies.

- The provider of service file contains the data that document each of 6,800 hospitals' certification to provide service to Medicare beneficiaries. It contains a wealth of descriptive data about individual institutions: type of control; beds by major services; service complexity (33 possible services are listed); physician staff composition; numbers and types of full time equivalent professional and technical personnel; intern and resident program approvals; and the current status of the hospital's certification by state agencies.
- The utilization file contains the data that justify payments to each hospital for each beneficiary. It contains data from the billing form (SSA-1453) for each claim paid under Part A of Medicare: identifying information on the patient, medical record number, dates of hospital admission and discharge, primary and secondary diagnoses, types of surgical procedures, charges broken down by major types of routine services, and ancillary services.

For a 20 percent sample file of beneficiaries, a statistical discharge record is created that consolidates information about each hospitalization--about 6 million per year. Each such record may be derived from one or more bills, depending on the patient's length of stay and the hospital billing procedure. The discharge record assembles selected information derived from bills, including primary discharge diagnosis, presence of surgery or additional diagnosis, length of stay, service provided and charges rendered. There were 1.3 million hospital discharge records in the 1974 20 percent sample.

Data for this file are slow to reach SSA, due to the exigencies of the payment process. (The time limit for filing claims ranges from 15 to 27 months from the date on which services were rendered. They must then be checked through and paid for by the intermediaries, who transmit them to SSA for processing only when all necessary adjustments have been made and the transactions completed.)

- The Current Medicare Survey, based on a sample of 7,000 beneficiaries, is conducted to obtain current estimates of medical services used and out-of-pocket payments they make for services to which they are not entitled under the program.

Together, these record systems provide a data base that has several great strengths. First, all the data are reported on identical forms throughout the nation, whether the Medicare beneficiary, the hospital or the Medicare patient is located in Key West or Nome. While this fact may not in itself guarantee the reliability and validity of the data entered on these forms--as we saw earlier in respect to the MCRs--it narrows the margin of reporting difference. For example, it would be impossible to assemble equally reliable descriptive data about participating hospitals from the state rate setting programs' and Blue Cross plans' annual cost and budget submissions, even though all ask for most of the same information. Differences in the degree and kinds of detail on the items reported in the different programs, different definitions of the various data elements employed, different reporting dates, different categories, would all serve to make the data incompatible.

Second, since most of the SSA data files are generated for administrative purposes that directly affect the pocketbooks of beneficiaries, providers, and intermediaries, incentives for keeping these data accurate

and up-to-date are strong.* Third, because the costs of collecting, processing and storing the data are already incurred for purposes of administration, the incremental costs of analysis for purposes of monitoring and evaluation are almost negligible. Thus, much information that might not be cost justified to collect separately is readily obtainable for a fraction of the original cost.

The Medicare data base offers several other special advantages as a resource for monitoring and evaluation:

- it has been operational for ten years and thus contains data to permit trend analysis.
- since it includes a defined population base, the utilization of and charges for services may be related to the population at risk, as well as to individual hospitals, hospital service areas, PSRO areas, HSA areas, cities, counties, and states.

Linking the Files

Several types of routine reporting systems based on linked records are now in place. A recent application of one such system, MEDPAR, to analyze utilization by PSRO areas, illustrates how several files can be systematically related and the results applied for monitoring. SSA created a linked record from the files that mapped data from the 20 percent sample to each area of the nation that had an active PSRO. The analysis, presented to the National PSRO Council in March 1976, displayed state and PSRO area baseline data against which each individual PSRO could compare its own length of stay experience with others along several dimensions. Comparisons were made of the PSRO average length of stay for selected diagnostic groups, as well as for selected surgical procedures.

* According to SSA observers, data in the provider of service record is probably the least reliable. Hospitals know that much of the detail they are asked to supply is not related to their reimbursement, and may suspect that it is not, in fact, used at all. This leads to careless reporting. See Rowland, Data Rich and Information Poor, page 77.

Finally, there was a comparison, again by PSRO area, of hospital discharge rates and surgery rates per 1000 persons enrolled, together with average length of stay, average charge per day and average charge per stay. Numbers of hospitals in each PSRO area were noted, and the average bed size. The same type of analyses is available for each individual hospital in the PSRO area. Succeeding yearly reports will describe changes. This will allow the performance of the PSRO programs' results to be monitored nationwide over time.

Were there to be a nationwide program of hospital rate setting, under either a Model 1 or Model 2 configuration, similar types of analyses should be performed routinely to focus on differences in hospital costs among rate setting program jurisdictions. At a minimum, the relationships of costs, hospital resources and rates of hospital admissions and hospital days per 1000 enrolled population should be displayed to show comparisons among rate setting jurisdictions. Moving on to examine associations of costs with casemix, similar analysis should take into account rates of surgical procedures performed, principal and secondary diagnoses, and patient age. These types of analyses, while useful at the state level, would, however, conceal important rural and urban differences. Cost/utilization/resource comparisons should also be made of SMSA and rural county experience within rate setting jurisdictions. If such reports were produced annually, not only could comparisons be made across rate setting jurisdictions, but again, changes could be observed over time.

Differences in cost for the treatment of apparently similar patients could then be explored through special studies, seeking explanations according to patient outcome and quality of care differences as well as differences in the structure and functions of different types of hospitals--and of different approaches to hospital rate setting. This type of population and patient related monitoring is a necessary complement to the monitoring of the hospital economy being developed by ORS and AHA in the newly expanded National Hospital Panel Survey.

As we have seen, however, the development of such a monitoring capability will require a concerted effort to improve timely access to the necessary hospital cost data. This calls for the generation of a minimum data set of hospital cost data, employing standard data elements, commonly defined, spun off from the Medicare cost report, or any successor cost reports generated for the purpose of federal (Model 1) or state (Model 2) hospital rate setting. Such a minimum set, whether that identified in the Limited Abstraction Program being planned by the Bureau of Health Insurance, or under other auspices, could then be related systematically to the patient data and hospital resource data from SSA's utilization, provider of service, and entitlement files to produce the types of population-based and geographic-area-based cost monitoring analyses that are needed to alert concerned observers as to changes taking place in the system that may be associated with hospital rate setting, and to assure the public that these changes are in line with the broad objectives of the rate setting law.

Monitoring must include even broader dimensions, however. First, if an overall concern is to contain total expenditures for health services as a percentage of the GNP, the effects of hospital rate setting must be monitored in these terms, not just in terms of increases in hospital prices, or even per capita expenditures for hospital care. This requires the development of fund flow studies that embrace all types of spending over time. Obviously, success in curbing the rise of increases in hospital inpatient rates would not be desirable from a system point of view if it merely forced transfers of the same total expenditures for care to other institutions in the health care economy, such as long term care facilities.

Second, trends in the out-of-pocket expenditures of the population need to be monitored, as is presently done in the Medicare survey, to show the extent to which savings attributed to rate setting may merely transfer costs back to the patient himself.

Third, the effect of rate setting on broader system goals to improve the cost effectiveness of health delivery must also be monitored. For

example, it would be counterproductive to set hospital rates so tightly that hospitals have no funds to carry the startup period of programs such as home care, patient education, day surgery units, etc., when planning agencies are encouraging them as a means to reduce the community's need for inpatient care. Similarly, rates could be set so tightly that hospitals are forced to close down loss centers such as emergency rooms and outpatient clinics, even though these may meet pressing community needs. Again, monitoring is required to assure that the savings from such actions are not counterbalanced by added expenditures associated with increased hospital admissions and other undesired effects.

Finally, given the pressures on hospitals to compete for physicians, and with these physicians increasingly absorbed in pushing at the frontiers of high technology medicine, usually without awaiting the results of controlled clinical trials, the public must have some assurance that advanced acute care for a relatively small minority of patients does not consume a disproportionate share of the available health dollar. Otherwise, the nation will be left with only small change to spend on prevention, and the slow rehabilitation and long term care of far larger numbers of patients suffering from chronic diseases for which there are no miracle fixes. As Kerr White recently stated to the Senate Committee on Labor and Public Welfare's Subcommittee on Health: ⁶

We require personal compassion for the care of individual patients, but statistical compassion for establishing public policy. All health problems have priorities; it is a question of whose priorities we are talking about. The question before you is, which sort of logic, based on what arrays of information and statistics, and which decision-making approaches will be most helpful to the Congress in allocating scarce resources to reduce the overall burdens of illness in this country. . .

Dr. White went on to remind the subcommittee that Congress and the public never see the facts of health and disease set out in numbers as they do for economic affairs in the Annual Report of the Council of Economic Advisors, or in the monthly reports on the Consumer Price Index, and the balance of international payments. But, he said, "this is well within the wit of man to remedy."

FOOTNOTES: SECTION 4

1. Bureau of Research Services, American Hospital Association, Guide to the American Hospital Association's Program for Monitoring the Hospital Economy, 1975.
2. Vermont Surgery Study, 1969-71. On the incidence of tonsillectomy and other common types of surgery, Cooperative Health Information Center of Vermont, Inc., Burlington, Vermont, July 1974.
3. See also Wennberg, John E. and Gittlesohn, "Small Area Variations in Health Care Delivery," Science, 1973, pp. 182-1102.
4. John E. Wennberg et al., "Health Delivery in Maine, III: Evaluating the Level of Hospital Performance," The Journal of the Maine Medical Assoc., Vol. 66, No. 11, 1975, pp. 298-306.
5. Jennifer Robbins, The Uses of Population-Based Data for Rate Setting, Harvard Center for Community Health and Medical Care, Report Series R-45-5, Boston, April 1976, p. 21.
6. Kerr L. White, Statement to the Senate Committee on Labor and Public Welfare Subcommittee on Health, June 17, 1976.

PART II. IMPROVING THE RELIABILITY OF THE DATA

SECTION 5: QUALITY OF THE HOSPITAL COST DATA NOW REPORTED

As Robert Linde observed at the project's June 1975 conference, good rate setting requires the right kinds of numbers, the right numbers, and the right use of numbers.¹ The previous sections of this report have dealt with the first of these issues. We described the extensive range of data that is required for rate setting and appeals. To meet national and local users' requirements for differing depths of detail, we also recommended that hospital cost/volume/service data be maintained and reported in a modular format. In particular, we suggested a spin-off of a narrow set of that data in a Uniform Hospital Cost Data Set (UHCDS) designed to serve the needs for rate setting program monitoring and for other uses such as federal and state level policy analysis.

Unfortunately, just mandating that hospitals submit reports to hospital rate setters, and specifying the items they are to report does not necessarily produce the right numbers. Nor does the provision of a standard cost report form assure that external reviewers will be able to make valid interhospital comparisons. Although all types of users and potential users of hospital cost data are to some degree affected by unreliable hospital cost data, it is at the level of rate setting and rate appeals where the problems become most acute. Just as decisions based on too narrow a scope of data may be reflected in overpayment to some hospitals for the type and quality of care they render to patients and in underpayments to others, so too with decisions based on poor quality data.

Certain basic problems in the quality of hospital cost data reported at the source, and in the nature of the reporting systems themselves, now create serious obstacles to valid analysis. In this section, we will first set forth some criteria for producing "right" numbers, and illustrate some of the shortcomings of present cost reports

in meeting these criteria.* We will then review two means of improving the present situation; uniform accounting and reporting, and checks on data quality through routine audits.

Requirements for Cost Data Reports of Good Quality

The data used for hospital rate setting should be able to meet standards of quality in respect to the following characteristics:

- Completeness

A report may be incomplete in that the hospital fails to enter a number for some whole class of items, e.g., number of patient days, or for some subset of the class, e.g., number of OB patient days.

- Reliability

The same institution may report the same types of information, e.g., number of beds, differently on different reports - either to different agencies, or to the same agency over time.

- Validity

The reported data should correspond to the actual property of the item to be measured. Validity is closely related to reliability, in that no data can be more valid than they are reliable.

- Comparability of data across reporting lines

If the items to be reported and the reporting categories are open to different definitions, different hospitals will again report according to different interpretations and results will not be comparable. An example might be a classification called "long term care unit."

As we shall see, the data from cost reports often fail to meet criteria of completeness, reliability and comparability.

* Many of the same problems with data quality are present in the other types of reports rate setters and monitoring agencies need to use, e.g., uniform discharge abstract reports, claims forms, AHA's Annual Survey, etc. It is beyond the scope of this project to review these.

Some Shortcomings in Cost Report Data

The discussion to follow will illustrate limitations of the data collected in the cost/budget reports secured by rate setting programs and in the Medicare cost report. It draws from project interviews with analysts in a number of rate setting programs, with researchers on the SSA contracted evaluations of rate setting programs, and on comments from participants at our two meetings. If most of the examples stem from analysis of the MCRs, this is because the researchers who had to use these reports encountered the greatest frustrations. Rate setters, when they discover problems, can always ask the reporting hospital to correct its error. Researchers have no such recourse. However, since rate setters' budgets for checking on the quality of the reports are usually quite limited, as will be seen later, and because other demands on their time are so great, they may not be equally aware of data shortcomings.

Completeness of the Data Reported

Hospitals fail to report many items on their required rate setting forms and schedules and on their Medicare cost reports to a surprising extent. As an example, in one of the prospective rate setting evaluation studies during the course of the study period almost 200 hospitals in a sample of 400 hospitals either failed to enter on their annual Medicare cost reports the total number of their employees or the total salaries paid. The experience of Applied Management Sciences in trying to run simulations on the 1200 sample cost reports for 1973, under the SSA/ORS contract described earlier, further illustrates the magnitude of the problem. Because of the extensive non-reporting of key items, 803 of the reports had to be discarded.²

The completion rate in cost reports varies greatly according to category. The state rate setting program analysts and SSA evaluation study staff we interviewed agreed that on the whole, hospitals do well in reporting

the dollars they spend and receive, but that they report the other half of the cost equation - input and output statistics - quite unevenly. For example, in filling out New York's Uniform Financial Report, of 145 upstate hospitals reporting in a given study period, only about 70 percent supplied the requested data on volumes of laboratory and X-ray procedures, and deliveries. A mere 33 percent supplied data on operating room activity.³ The same study discovered very uneven completion rates in the reporting of full time equivalent personnel. All 145 upstate hospitals supplied numbers of FTE in the housekeeping departments, 134 of them supplied numbers in dietary, 122 in laboratory, and 107 in general nursing.

The degree of accuracy with which data are reported also appears to vary according to category and item. The most cost consequential error is misreporting of the counts of inpatient beds and patient days, since these figures, both in total and by hospital service, constitute the basic denominators for many types of computed variables used to indicate unit costs and productivity. Four of the five state rate setting programs whose information capabilities our project studied reported frequent discrepancies in the number of beds that individual hospitals reported to them, to the state licensing agencies and/or to the certificate of need agencies. While some of these differences may have reflected different definitions of bed complement, or differences in reporting period, the usual distribution of the variance suggests that hospitals sometimes tailor their reporting to the particular purpose to be achieved by each report. (Efforts to overcome this problem of incongruent or bad reporting often open channels of inter-agency communication. Altman's study reports that in Maryland it led to the design of a common application form for section 1122 and A-agency planning reviews. These are now routinely analyzed by the Health Services Cost Review Commission.)⁴ Several of the evaluation study projects reported frequent discrepancies between the numbers of patient days hospitals reported on their MCRs and those they reported to the AHA Survey.

The reporting of ambulatory services is said to be highly prone to

error. Analysts found that hospitals often appear to make arbitrary allocations of visit counts between emergency room, outpatient department and referral service. Again, the volumes of ambulatory services a hospital reports on a cost report often correspond poorly to those it furnishes to the AHA survey.⁵

Hospitals frequently disregard cost report form instructions on prescribed statistical measures, using instead the ones they are accustomed to employ for internal control purposes. A common error, for example, is to enter counts of operations instead of operating room minutes without noting that the change has been made. Again, they may enter numbers of X-ray procedures instead of numbers of films. In fact, the quality of the reporting of such measures on the MCRs was so consistently poor over the years that Schedule D, on which they appeared, was dropped from the MCR in its 1975 revision (SSA 2552).

As we have noted, both the Medicare cost report and the state rate setting cost and budget reports frequently incorporate changes in reporting format. SSA evaluators, using historical MCR's to construct time series, discovered that each time the forms were changed, clerks get confused as to where to enter the items. The frequent changes in categories of long term care beds, for example, are a continual source of trouble. Likewise, when ICU beds were newly introduced on forms, some hospitals treated them as additions to medical-surgical beds, but others treated them as substitutes. Similar confusion arises as special ICUs have been created over time. To disentangle the facts requires painstaking examination of each individual hospital report.

Analysts who work directly with the cost reports note that different clerks at the same hospital may enter items differently. Retrospective analysis, such as the evaluation projects conducted, found that a recording error at a hospital was sometimes repeated year after year; at other times it was a one-time error - causing a strange blip in the trend data. Surprisingly, a number of analysts reported finding no marked difference in recording accuracy according to hospital size; some large hospitals were

as bad as smaller ones; some small ones were much better than others.

There is general agreement among those who work with either state or Medicare cost reports that the completeness and accuracy of the data on any given item or in any given category appears to depend on the hospitals' perception of how these data will be used. If hospitals get no feedback from particular items they supply, over time they come to assume that the reviewer does not use them in his analysis. Naturally, the urge to report precisely is not strong.

It should be remembered that the SSA rate setting program evaluations were made on data reported before 1974. Some of the problems they encountered with incomplete or inaccurately reported data may have diminished since then. In particular, hospitals undoubtedly pay much closer attention to the reporting of statistics by hospital departments and cost centers in the later, more advanced generation rate setting programs that have since gone into operation and which rely on detailed interhospital comparisons of cost units.

Problems of Definition

Inconsistencies of definition are another major source of unreliability in the data that hospitals report on their cost/budget submissions. James Ingram, at the project's Advisory Committee meeting, observed, however, that the industry has come a long way forward in these respects since the early 1960s when New York's pioneering UFR was developed. At that time there was not even a standard definition for "patient day" in New York hospitals. And when Blue Cross surveyed the hospitals to learn the basis on which they classified infants as "premature", 28 different definitions were forthcoming.

Although standard definitions of the terms "patient day," "admission" and "discharge" are by now almost completely accepted, and though progress has been made in respect to many other terms (largely through efforts of the American Hospital Association) there is still considerable slippage. New York's UFR, for example, asks hospitals to report the number of their full time equivalent employees figured on the basis of their "standard"

work week. Since one hospital's standard work week may differ from another's by several hours, productivity comparisons based on numbers of FTEs would not be valid.

Most other programs employ the AHA's definition of FTE. Even so, however, true comparability may not be attained. This is because the AHA definition counts each part-time employee as half an FTE, when in fact, part-time employees may work anywhere from 20 to 80 percent of full time. Thus, even when two hospitals report the same number of FTEs according to some standard definition, the actual number of manhours worked may still differ appreciably. Other problems that impair reviewers' ability to make comparisons of hospital productivity arise from failure to distinguish between paid manhours (which include holidays, etc.,) and manhours worked.

The term "visit" for ambulatory care is usually defined to include all the patient's encounters after he crosses the hospital's threshold. The MCR uses the term "occasion of service." In some reporting systems, however, the term is left ambiguous, and hospitals may report the patient's attendance at a series of clinics during a single session as a series of separate visits. Or, even when the definition is clear, a significant portion of hospitals may disregard it in their reporting.

Standard definitions of the units of measure for the support services of hospitals may be interpreted differently. By way of illustration, during the first year of budget review in Rhode Island the reviewers thought they had unearthed truly startling inefficiencies in the laundry operation of several hospitals. Pound for pound, costs were three times as high in one hospital as another; in yet another they were twice as high. But subsequent investigation showed that the low cost hospital was weighing its laundry only after it had been fully dried and ironed; the medium cost hospital weighed its product when it was dried but not ironed; and the high cost hospital, when it was damp dried only. This illustrates the very general problem of lack of clear and complete definitions of the units being counted and reported.

Among the many other definitional ambiguities that could be cited are: what is classified as "major" and what as "minor" equipment; what constitutes a "short term" as opposed to a "long term" loan; and what items are included as hospital assets?

Comparability Across Reporting Units

Since hospitals vary enormously in size, function, scope of service and a host of other characteristics, it is hardly surprising that they organize their activities in a great variety of ways. This central fact creates a host of difficulties for the external reviewer attempting to compare costs for apparently similar activities. For example, in New York the dietary departments' reported cost per meal served in some hospitals is much more than double that of others. The explanation here is that the apparently low cost hospitals contract with commercial firms to handle a large part of their food services. Following instructions in the cost report form, they reported all contract services together in a special category, entirely separated from expense for the dietary department. This illustrates a very general problem having to do with the appropriate categorization and reclassification of the data that are reported.

A parallel type of situation is where hospitals combine services that are listed separately on the reporting forms, and thus do not maintain separate volume counts. An example might be EKG and EEG tests. This often leads to some quite arbitrary assignment of numbers. One of the SSA evaluation studies, in an attempt to segregate such misleading data, set up a separate code for each type of apparently mistaken entry in the MCRS it analyzed. This resulted in a doubling of the total number of codes.

These types of reporting problems create special difficulties when rate setting programs attempt to match the expenses in each cost center with the revenues received. In these programs, the question of assigning

the costs of departments that provide services to other departments, such as housekeeping and maintenance, becomes acute.

The Question of Deliberate Misreporting

If hospitals feel that the rate setting or reimbursement system is advertantly or inadvertantly misinterpreting or misusing the data against the interests of the institution, incentives are created to fudge the data at the source. For example, one hospital financial officer whom we interviewed was convinced that the rate setting program (a third generation model relying on departmental screening of unit costs) did not adequately allow for costs of laboratory testing required for control of hospital infections, and for quality control tests. He described his response as follows:

We simply don't report any lab tests except those that are billed to patients, even though the rules say we are supposed to. Of course, that leaves us with a very high unit cost. We'll probably end up at the top of our peer group, or maybe over the ceiling limit, even though our lab is excellently managed. I don't mind. I'll argue my case in an appeal, and maybe I'll get an exception. Even if I don't, I won't lose as much as I would have otherwise. I just feel sorry for the hospitals that don't have sense enough to do this. They'll come in with low unit costs that won't pay for the control tests they should be running. Of course I don't like this way of doing things, but what do you do when you have to buck an unfair system? My job is to defend my hospital.

This illustrates one of the very many ways that data recording can be intentionally skewed at the source to produce misleading statistics that subsequently become the base for calculating unit costs. In this case, the rate setting agency had anticipated the problem and set forth a rule, which was deliberately ignored. More typically, the agency will not have been able to anticipate all possible responses, leaving hospitals many opportunities to maximize their position through the ways in which their cost center statistics are recorded, while staying strictly within regulations.

Aided by consultant firms and through computer simulation techniques, the art of reimbursement accounting is already flourishing with respect to hospital cost allocation. It is not impossible to speculate that a corresponding effort could be mounted in the future in respect to volume of service reporting. However, there is no indication that this is now the case. The analysts we talked to that work directly with hospital cost and budget reports attribute the vast bulk of quality problems to carelessness or confusion among the hospital personnel who supply the statistics and fill out the forms, rather than any deliberate intent to manipulate. Thomas W. Egan at the project's June 1975 conference explained why hospital financial managers prefer not to play these kinds of games:⁶

They know that they cannot foresee the future results of this year's accounting ploys. The whole environment and rules of the reimbursement system might well be changed in a few years and the hospital be trapped by its own reports to the rate setting agency. . . Once you have games going, it is hard to get back to the truth.

In conclusion, we have seen that analysts and researchers who use the Medicare cost reports and cost reports supplied by hospitals to state rate setting programs discover serious problems with the quality of the data. This is particularly so with the statistics of bed complements and volumes of activity that constitute the denominator on which hospital costs are calculated for comparison purposes. Thus the Medicare cost reports, the only nationwide source of hospital cost data, as presently reported cannot be counted on to supply satisfactory data on which to base Model 1 national rate setting, even if current problems of processing delays could be overcome

Were a Model 2 configuration to be adopted with state administration, the quality of the data would undoubtedly vary greatly among the states, making program monitoring at the federal level difficult if not impossible. Thus, under either model, special efforts need to be mounted to improve the comparability, the completeness and the reliability of the

data reported so as to insure that the data submitted by different hospitals are in fact comparable.

Some factors influencing the quality of data depend on the nature of the future interaction between the rate setting bodies and the hospitals. First, if the hospitals do not deliver regular feedback that indicates that particular items of data they supply are being used, there is little reason to expect that they will of their own accord improve the completeness or accuracy with which these items are reported. Second, changes in forms and coding systems will inevitably increase rates of errors in reporting. Third, hospitals' perceptions of the way that rate setters use the data in their decisionmaking, both as regards degree of fairness and as regards degree of consistency, may be expected to call forth corresponding responses in the ways these hospitals record their transactions at the source.

A uniform reporting system based on a uniform chart of accounts, complemented by a sound audit capability, can minimize the flow of unreliable data, whatever its cause. These two approaches to improving data quality will be reviewed in the next section.

FOOTNOTES: SECTION 5

1. Bauer, Uniform Reporting, p. 36.
2. Rowland, Medicare, p. 61.
3. Interview with J. Cromwell, Apt Associates, Cambridge, February 5, 1976.
4. Altman, Connections, pp. 30-33.
5. Interview, University of Washington, Seattle, April 25, 1975.
6. Bauer, Uniform Reporting, p. 45.

SECTION 6: IMPROVING DATA QUALITY THROUGH UNIFORM REPORTING, ACCOUNTING AND AUDIT

The objective of a uniform accounting and reporting system in the present context is to improve the comparability of the information furnished by hospitals both at the points where transactions are initially recorded and where aggregated data are subsequently furnished to external reviewers, and to do so in an economical manner. The objective of audits is both to monitor these processes to detect systemic sources of mis-recording and/or misreporting, and to uncover specific errors.

This section will review some of the current issues surrounding uniform accounting, reporting and auditing in connection with hospital rate setting.

Uniform Accounting and Reporting

The American Hospital Association has been developing and refining its chart of accounts since the 1920s. The rationale behind the effort is succinctly stated in the tenth edition of the chart, published in 1976:¹

The Need for Uniformity. Although hospitals differ to some extent in activities and sources of income, they have more similarities than differences. The use of uniform accounting classifications, accounting methods, and statistical definitions can provide a common standard of measurement and communication. The same kind of information could be reported in the same manner by all hospitals, and thus could be compared among all hospitals. Hospitals would be able to speak a common language.

Such a common language is sought for in all rate setting programs. Most state and Blue Cross plan programs require that hospitals follow the AHA chart, and have used it as the basis for designing the cost/budget report packages they require hospitals to submit as a principal source of data for rate determinations.* A few programs have adopted some elaborated

* A chart of accounts is defined as a listing of account titles with numerical symbols designed for the compiling of financial data concerning the assets, liabilities, equity, revenues and expenses of an enterprise.²

version of the AHA chart, notably the one developed by the California Hospital Association, referred to earlier, which is used both in Washington and Arizona. Again, however, whatever chart of accounts is employed, it is always purposefully linked to whatever reporting system is developed for rate setting.

This is important to bear in mind, since some critics maintain that while it is desirable to have a uniform reporting system, there is no need for a corresponding uniform accounting system. In other words, there is general agreement that in order to obtain comparable data, hospital cost and budget reports to rate reviewers should use clearly defined standard categories of hospital activities, and that the items should follow standard definitions, but it is sometimes claimed that this does not necessarily imply use of a standard chart of accounts. The implication is that were a standard chart to be imposed, all hospitals would be forced to keep their accounts in precisely the same way, taking no cognizance of differences in their size, scope of services and internal framework for organizing and managing these services. This is certainly not the intent of the charts designed by the AHA and the California Hospital Association or of the chart development effort now underway at SSA. Since it appears to reflect a basic misunderstanding, and in any event conveys one, it may be worthwhile to review the purpose and goals stated in the 1976 AHA chart document referred to above.

In its introduction, the chart notes that hospital accounting and statistical reports are prepared for a variety of uses. These fall into two categories: submitting required data to regulatory, state and federal agencies, and aiding hospital management in planning and controlling hospital activities through internal and interhospital comparisons. The document then goes on to explain the differences between internal versus external reporting requirements, and how the chart, by including a chapter on a uniform reporting system (Chapter 6), addresses both needs: ³

Functional reporting can be defined as the reporting of financial information according to type of activity. Responsibility reporting can be defined as the reporting of financial information according to organizational unit.

Total costs and revenues are the same regardless of whether functional or responsibility reporting is used. Each reporting system serves a different purpose, however. Responsibility reporting is necessary for evaluations of and by hospital management. However, because organizational structures vary among hospitals, responsibility reporting does not enable the comparisons necessary for external uses. Stated another way, although specific functional activities are similar in all hospitals, responsibility for the activities varies among hospitals depending on each hospital's organizational structure. This means that the use of responsibility reporting is limited to internal reporting and that only functional reporting can be used for external reporting.

Therefore, the accounting and reporting system developed by the American Hospital Association enables comparison of activities among hospitals but does not significantly disturb the responsibility reporting system. . . .When differences do occur (as a result of individual hospital organization), reclassifications will be necessary to achieve conformity with uniform reporting requirements.

Since the concept of responsibility versus functional accounting is so central to the discussion, we will illustrate by looking again at the problem reviewers encountered in trying to compare costs per meal in New York hospitals, cited earlier. With responsibility accounting, only the expenditures that are directly under the dietary department head's supervision are properly charged to the Dietary accounts. Thus, if an individual hospital decides to contract out for part of its food service, payments by the hospital under the contract would be reported not to the Dietary department, but to the particular administrative center that negotiated the contract or that had been assigned responsibility for its monitoring. This type of responsibility accounting would continue under any uniform accounting system. However, to supply to outside reviewers the information they need to make valid comparisons of meal costs between this hospital and others that did all their food preparation in-house would have required a further step, not now present in the New York

reporting system. Under the specifications of a uniform reporting system, such as is being employed in Washington and several other rate setting states, all the expenses that go into furnishing meals would have been assembled into a functional account, defined in a standard manner for all hospitals in the area. Here would be brought together not only the activities for which the dietary department was directly responsible, but also the expenses of the contracted food services, and any other related functions, such as tray service or equipment repair, that might have been performed by some other hospital department. Fringe benefits of dietary employees and other such items charged to other responsibility centers would also be reported in the dietary functional account. The resultant expenditure data, when divided by the total number of meals served, would give external reviewers a means to look at the cost per meal in different institutions, at least to the extent of enabling them to ask questions about differences discovered.

In short, the purpose of linked uniform accounting and reporting is to allow financial and related statistical data to be assembled in a manner that meets the information needs of hospital managers for purposes of internal control yet also meets the quite different needs of external reviewers who must use it to make interhospital comparisons. Together, a chart of accounts and a uniform reporting system can help to meet this double objective in a manner that both minimizes the burden on hospital clerical staff, and minimizes the delays.* A chart of accounts should supply:

* Most of the accounting principles and conventions that apply to other industries are equally applicable to hospitals. They will not be reviewed here. The Hospital Audit Guide of the American Institute of Certified Public Accountants (AICPA) spells out several areas of difference; their recommendations are usually accepted by all parties. Some, however, particularly as regards the handling of depreciation, are sometimes rejected by rate setting programs.

- a listing of numbered accounts - each one of which is accompanied by a narrative description of the functions to be included that also defines the terms employed.
- a coding system sufficiently elaborate to permit each entry of transactions to be recorded and categorized in a fashion that to the extent possible will permit aggregation to both functional and responsibility centers.

A uniform reporting system should:

- define the functional centers to be employed;
- set out preferred accounting treatments in areas subject to different methods;
- allow for reclassifications from responsibility centers to the extent necessary.

Account Listings. No list of accounts can meet all the requirements of all hospitals. Basic service hospitals will not provide many types of services or perform many functions described in the account listings. Medical centers and many other large hospitals will require far more subaccounts for their own purposes than any standard chart could provide. Thus, today a standard chart is expressly designed to provide maximum flexibility through the coding system it employs. A wide range of accounts and account numbers is usually provided because it is easier for the individual hospital to omit accounts that it does not need than to add what is needed but not described in the chart manual. At the same time, the coding system usually provides for the addition of large numbers of subaccounts that larger hospitals may wish to add. Thus, a good chart can be contracted or expanded in order to meet specific requirements of small or large hospitals without affecting the basic uniformity needed for recording and reporting financial information.

Both the California Hospital Association and the AHA 1976 revised accounting systems are structured so that accounts can be reclassified to produce financial information concerning functional activities that cross organizational (responsibility accounting) lines. This, too, is accomplished through the coding system.

Coding Systems. The number of digits employed for coding has been growing through the years. The new AHA chart, used here as an example since it is the most recently published chart, provides for the routine use of six digits.* An additional three digits may be added by hospitals located in areas where uniform reporting of expenses and revenues is required by external reviewers. The use of the extra three digits for functional reporting of revenues and expense items is described in the AHA chart document as follows:⁴

In addition to providing for responsibility reporting, the chart of accounts provides for recording and classification of transactions according to standard functional definitions for hospitals that participate in uniform reporting programs. The nine-digit revenue and expense account number has been developed so that a given transaction can be classified according to the responsibility units and the functional units to which the transaction is related.

This account code structure allows the hospital to classify a transaction in two ways at the time the transaction is originally recorded. This relieves the hospital of the burden of making the extensive reclassifications that would otherwise be required in order to convert from internal responsibility to uniform functional reporting.**

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- * The first digit describes basic groups of revenue and expense accounts in the sequence in which they are presented in financial statements. The third and fourth digits are used to identify organizational units within the hospital - e.g., the hospital's revenue and expense or responsibility centers. Following a decimal point, the fifth and sixth digits are used to provide for various subclassifications of revenue and expense. For example, for expense transactions, the fifth and sixth digits are used to provide natural classifications of expense within each responsibility center, e.g., salaries and wages, employee benefits, professional fees, supplies, etc.
- ** When a particular hospital is about to implement uniform reporting, it must inventory the functions and services each of its responsibility units provides, and compare them with the standard functional and service definitions prescribed for each functional reporting center. Where there are differences, the hospital must be prepared either to change its internal practices or to reclassify its data to correspond with the functional centers.

Coding also helps to facilitate translation to functional accounting because responsibility control accounts (accounts in which the fourth digit is zero) represent the functional centers. The first three digits of these responsibility account numbers correspond to the functional account numbers. When a hospital is participating in a uniform reporting program and its responsibility reporting centers and functional centers are the same, it avoids having to reclassify revenues and expenses. Thus, there are incentives to move towards the standard functional account definitions. When the Washington Hospital Commission instituted its uniform reporting system, reporting for basic service hospitals was greatly simplified by the requirement that they only had to report the items on their control accounts.

Definition of Functional Centers. Functional reporting center definitions determine how the revenues and direct expenses of the various activities and functions of the institution are to be classified and reported for purposes of uniform reporting. An example, from the Washington Accounting and Reporting Manual is included as Exhibit K. As can be seen, the account number and title are followed by a summary of function, and a description of the types of expenses that are to be included. Some possible sources of confusion are dealt with - in this case, outside service bureau costs chargeable to specific cost centers.

The standard unit of measure is stated, and the source of data on which it is to be based is indicated.*

* The purpose of the standard unit of measure is to provide a common statistic for measuring costs for all hospitals. The standard unit of measure for revenue-producing cost centers attempts to measure the volume support services rendered to the revenue-producing patient care departments. The statistics that are used to allocate the costs of non-revenue producing centers to each other and to the revenue-producing centers are not necessarily the same. For example, the unit of measure for the admitting cost center in the California chart is the number of admissions, while the allocation, cost finding statistic is gross patient revenue. In some cases the same unit is used for both purposes.

EXHIBIT K: ILLUSTRATIVE ACCOUNT: WASHINGTON STATE HOSPITAL
COMMISSION ACCOUNTING MANUAL

8540 DATA PROCESSING

Function

The Data Processing department performs the operation of the hospital's electronic data processing system, including keypunching of input, storage and safeguarding of data, operating data processing equipment, data processing job scheduling, distributing output, and identifying and solving hardware and software problems.

Description

This cost center shall contain the costs incurred in operating an electronic data processing center. Included as direct expenses are: salaries and wages, employee benefits, professional fees, supplies, purchased services, depreciation/rental/lease, other direct expenses, and transfers. Expenses incurred in the operation of terminals of the EDP center throughout the hospital shall be included in the Data Processing cost center. However, outside service bureau costs directly chargeable to a specific nursing or ancillary cost center shall be included in that specific cost center in the "Purchased Services-Other" natural classification (.65). Outside service bureau costs benefitting more than one cost center shall be included in the Data Processing cost center.

Standard Unit of Measure: Gross Patient Revenue

Data Source

Gross patient revenue shall be obtained from the general ledger.

In addition to the account descriptions, some reporting systems provide extensive listings of items whose assignment to cost centers may be confusing, directing their proper assignment. Reporting manuals also specify the accounting policies that serve as a basis for the system, again, in order to insure comparability. Some of the special areas usually considered are the treatment of fringe benefits, depreciation, leases and rentals, insurance, research, transportation of patients, and in-service education.

As noted above, systems for reclassification from responsibility to functional centers are based on the coding system.

Should a Uniform Accounting and Reporting System be Prescribed?

For hospital rate setting that relies on interhospital performance comparisons, there appears to be a clear need both for uniform accounting to provide a common language, and for linked uniform reporting which can communicate the message. Such systems are essential for providing comparable data. As we have noted, only the first and second generation rate setting programs presently lack the benefit of such systems. An unsettled issue is whether a single chart of accounts and uniform reporting system should be used by all hospitals in the nation, as is the case in Canada, or whether different localities should be free to devise their own systems, as has been the case in the United States to date.

The AHA chart currently provides the account definitions and numerical coding systems used by most hospitals. However, its adoption by hospitals is purely voluntary, and individual institutions may and do adapt its structure to suit their own purposes.

For some hospitals, however, accounting and reporting systems are prescribed. In addition to those in rate setting states, previously discussed, government controlled hospitals often must, by local law and regulation, conform to the accounting systems prescribed for other government-run institutions. Chains of proprietary hospitals often have their own

accounting and reporting systems, as may the hospitals run by religious orders. Requiring conformity to a standard system in these instances creates special problems for state rate setting or cost review programs. The California experience in making the transition to a statewide uniform accounting and reporting system during the period 1975-76, has shown how difficult this can be. There are substantial numbers of both county and proprietary chain hospitals among the 650 hospitals in that state.

Under a Model 1 rate setting configuration the federal government would, in addition, have to require the states that have already developed their own systems to conform to its prescribed system. Since section 1523 only requires DHEW to develop a uniform accounting and a uniform reporting system, not to promulgate its use, these issues have not been faced. One suspects that their resolution will depend more on political pressures than on the technical merits of a universal system.

If multiple systems are allowed to continue under some nationally mandated rate setting program under federal guidelines, Model 2 rate setting could take place much as now. However, without the uniform hospital cost data set we have recommended, the capacity of the federal government to monitor the programs would be considerably diminished. The experience of state public utility commissions, described in Stangle's project paper may be relevant.⁵ During the 1920s and 1930s, several uniform systems of accounts were prescribed by the National Association of Regulatory Commissioners and by several of the federal regulatory commissions. Today, the majority of state commissions have adopted one of these systems, although they are often modified in detail to suit local situations or problems. The paper reports the finding that:

Disuniformity is generally not a severe problem in the case of reports which are submitted to the same agency by different firms. [However,] because different agencies have adopted separate and distinct uniform systems, the results have been that:

- 1) There is little comparability of accounting information among companies that are regulated by different agencies;
- 2) It is difficult to compare regulated companies with unregulated ones in the same industry.

Were the federal government to be given the responsibility for rate setting under Model 1, a single uniform system of accounting and reporting for all the nation's hospitals would appear to be essential. In our opinion, it would also be highly desirable under the Model 2 rate setting option. Whether a uniform system is prescribed by a state or by the federal government, special accommodations would have to be made to meet the requirements of any external agency to whom hospitals would have to report. Changing to a new uniform system presents equal difficulties for the individual hospital. However, if a change is to be made anyway from the present voluntary compliance to some new mandated uniform system, the opportunity should be seized to insure that reports from hospitals are compatible nationwide.

However, if hospitals are to be required to switch to some new universal system of accounting and reporting, extraordinary precautions must be taken in its design, pretest and implementation stages so that the purpose can be accomplished with minimum cost and disruption. This question will be discussed in Section 7.

Auditing the Cost Reports

If one essential condition for making valid comparisons among hospitals is that the data used be reported in commonly defined categories, another is that they be checked for completeness and accuracy. Both federal and state laws and regulations provide sanctions against falsely reported data on required reports to government agencies. However, such sanctions appear only to be applied in cases of suspected fraud, not as a means to encourage general improvement in the quality of the data reported. The Medicare cost reports and the cost reports submitted by hospitals for rate setting are almost always subject to desk audit and to spot field audits. These, however, are conducted with varying degrees of thoroughness. Audits of Medicare cost reports focus primarily on the items used for reimbursement. Other items, as we have seen, do not receive careful checking.

State rate setting programs vary considerably as to the extent of budgetary resources that are available to them to validate the reports submitted by hospitals. For example, the Arizona rate review program entirely lacks a capability to audit the reports of its 70 hospitals.⁶ Until February 1976, the Maryland Health Services Cost Review Commission had not even been able to conduct systematic desk audits. Since then it added one "analyst for compliance" to its staff, to review the reports of the state's 47 hospitals and to make field audits as indicated.⁷ Other programs have somewhat better capabilities. Massachusetts and New York have the best audit capacity of the states we studied. In both instances the cost reports used for reimbursement are also used for rate setting, and Blue Cross and state government pool efforts and resources to support a combined audit. This coordinated approach not only makes it possible to conduct 100 percent desk audits and in-depth field audits where indicated, but also lessens demands on the time of hospital personnel. In most other states, each third party conducts its own audit and the rate setters conduct their own--a highly wasteful endeavor.

State rate setting programs usually require either a statement from an independent auditor to attest the accuracy of the hospital's cost/budget report, or formal certification by officers of the hospital's board of trustees. We were told that the hospital's own audit, when required, usually focuses narrowly on the items that go into the institution's financial statement. The desk and field audits made by state programs, too, usually concentrate on the dollar entries the hospitals make on their reports, not the statistics. Although program directors and analysts realize that careful checks on statistics are crucial for rate setting that depends on cost calculations, they usually lack the staff to make them. Only two rate setting programs we know about, the Massachusetts Rate Setting Commission and the Blue Cross of Western Pennsylvania, are satisfied with the quality of the checks they are able to give to statistical data as well as dollar figures.^{8,9} Both programs have unusually large staffs of accountants and analysts in proportion to the number of hospitals being reviewed. In both cases, these staff spend considerable time in field visits to

individual hospitals, learning the idiosyncrasies of organization that so often lead to reporting problems.

The Province of Quebec devotes considerable resources to checking on the quality of the data hospitals report. Instead of maintaining its own audit capability, the Ministry of Social Affairs contracts with accounting firms to perform the task under the terms of a rigorously defined government protocol. The auditors examine with special care each hospital's internal control mechanisms for assuring the reliability and accuracy of its accounting and statistical data, as well as the hospital's compliance with the government's definitions. The auditors also evaluate the methods the hospitals use to gather budget information.¹⁰ Here, the function of auditing is to provide continuing education to hospital financial managers and administrators fully as much as it is to validate the data reported.

FOOTNOTES: SECTION 6

1. American Hospital Association, Chart of Accounts for Hospitals, Financial Management Series, American Hospital Association, 840 North Lake Shore Drive, Chicago, 1976, p. 3.
2. American Hospital Association, Chart of Accounts, p. 15.
3. American Hospital Association, Chart of Accounts, pp. 3-4.
4. American Hospital Association, Chart of Accounts, pp. 17-18.
5. Bruce Stangle and Katharine Bauer, Information Problems Experienced in Regulated Public Utilities and Parallels in Hospital Rate Setting, Harvard Center for Community Health and Medical Care, Report Series R-45-3, Boston, p. 10.
6. Diane Rowland, Information Available for Hospital Rate Review in Arizona, Harvard Center for Community Health and Medical Care, Report Series R-45-11, Boston, pp. 32-33.
7. Katharine G. Bauer, Information Available for Rate Setting by the Maryland Health Services Cost Review Commission, Harvard Center for Community Health and Medical Care, Report Series R-45-8, Boston, p. 21.
8. Katharine G. Bauer, Information Available for Hospital Rate Setting in Massachusetts, Harvard Center for Community Health and Medical Care, Report Series R-45-9, Boston, p. 31.
9. Katharine G. Bauer, The Combined Budget Review and Formula Approach to Prospective Reimbursement by the Blue Cross of Western Pennsylvania, Office of Research and Statistics, Social Security Administration, Washington, D.C., April 1974.
10. Karin Dumbaugh, Hospital Information Systems in the Province of Quebec, Harvard Center for Community Health and Medical Care, Report Series R-45-2, Boston, p. 52.

SECTION 7: TRANSITION TO A NEW REPORTING SYSTEM

Experience in states with currently operating rate setting programs shows that the adoption of any new uniform reporting system is fraught with difficulties. Many are technical, having to do with the design of the reporting system itself; others are organizational, having to do with the timing and nature of its implementation. Still others have to do with the way the new system is introduced to the people in hospitals and in the accounting and computer firms that may serve them.

This section draws on that experience as we learned about it in the course of our studies of the information systems employed in five states, and in field interviews with a number of hospitals in Washington and California. It reviews the types of problems most commonly encountered and concludes with suggestions that might ease such transitions, should Congress mandate the adoption of such systems.

Designing the New System

When a new reporting and accounting system is designed, certain common types of technical problems must be faced for which no easy "right" answers are possible. If a reporting system is imported from another area, such as when Arizona and Washington followed the California model, local hospitals and rate reviewers may not go along with all the answers arrived at by the prototype system.* These problem areas can be categorized as follows:

* California's Hospital Disclosure Act of 1971 requires hospitals to report their costs annually, but does not provide for rate setting. Arizona hospitals are required to submit both costs and budgets for the purposes of review; compliance with reviewers' recommendations on rate increases is voluntary.

- choice of the time period for reporting, given the fact that different hospitals may operate according to different fiscal years;
- decisions on the number and type of accounts to be reported;
- choice of standard units of measure, both for output and for allocation of indirect costs;
- the amount of reclassification that will be necessary for hospitals to perform; and
- accomodating to a change in the account numbering system.

The Reporting Period. Hospitals within the same reporting area often have fiscal years that begin of different months. In government hospitals the date may be determined by law. Other hospitals may also have special reasons for the date selected. Should hospitals be required to change, or should the reporting period be made flexible? At stake is comparability in analysis, especially as the inflation rate impacts on costs different during different periods of the year. On the other hand, rate setters may want to stagger hospital fiscal years for their own purposes, to avoid editing, data processing and analysis overload. Can comparability be maintained by different reporting periods for different peer group hospitals? William Dowling, at the project's Advisory Committee meeting, rejected this approach: "The whole point of going to uniform accounting and reporting systems is to obtain comparable data - so why compromise?"

The Number of Accounts to be Reported. If data are required from a large number of separate accounts, as in the California reporting system, small hospitals have problems. For example, California specifies seven cost centers for the Administration and General Services category - administration, public relations, management, engineering, personnel, auxiliary groups and chaplaincy. But in many small hospitals the functions in this category, to the extent that they exist, may be performed by only one or two people. Should the hospitals be asked to estimate the allocation of their salaries and fringe benefits to these accounts, as they do in California? Or should the accounts be collapsed into the overall A. and G.S. control account, as in Washington? If so, what is the dividing line between "small" hospitals and other hospitals - and won't there be problems of comparability at the boundaries?

Choice of Standard Units of Measure. Identification of suitable units of measure is widely acknowledged to be the most difficult unsolved problem. We have already discussed, in Section 2, the need to find more appropriate measures of hospital product, as regards patient care services - referring to the anomaly of the "patient day", etc. Measures for allocating the hospitals' non-revenue-producing department costs to revenue-producing departments are often equally arbitrary. For example, plant operation costs are usually allocated on the basis of square feet of space. Thus, although a laundry, with a relatively small square footage, may use 10-20 percent of the steam from the hospital's boiler, the nurses' dormitory, with larger square footage, would be allocated a greater proportion of the plant operation costs. A statistic that weighs the square feet according to service intensity and complexity, similar to a relative value scale for laboratory tests, would be a more accurate measure for allocation. Yet few reporting systems have been able to develop satisfactory replacements for the traditional measures.

Problem Accounts in Reclassification. Several areas are considered particularly troublesome in the shift from responsibility to functional accounting. These include accounts for Central Services and Supplies, Admissions, Transportation of Patients and Supplies. To illustrate, most of the new rate setting state reporting manuals require the hospital to charge all supply items and to post all corresponding revenues to a Central Services account, regardless of where these items are actually used in the hospital. In practice, most hospitals believe it necessary to post such charges and revenues to the unit that uses the item, in order to keep watch on the revenue-producing capability of the particular unit. The creation of a central service account is not an insurmountable obstacle for the hospitals, but it is inconvenient because it requires them to maintain two sets of reports. The internal reports are set up according to the traditional department categories, with patient chargeable supplies and the revenues from them assigned to the unit that uses them. These internal reports must then be reworked through reclassification to generate the external reports the rate setting agency

requires. If the hospital is computerized, as we saw in the preceding section, coding may enable automatic reclassification of the revenue and cost subaccounts; if not, clerks must generate the reports manually. Hospitals are understandably anxious to minimize the number of cost centers for which they must perform such reclassifications. On the other hand, rate setters in third and fourth generation programs require this type of detailed data reported by functional centers.

The Numbering System. Some programs, notably Maryland and Massachusetts, have introduced new reporting systems that are based directly on the AHA chart of accounts. The Western programs require that hospitals adapt to their new numbering systems. However, since most hospitals have always used the AHA chart of accounts and employed its numbering system for their internal accounting, their financial managers often object to having to change to another system. Not only do familiar account numbers constitute a common vocabulary among hospital accountants, the introduction of a new system confuses the clerical workers that record the transactions at the source. Without special new investment in their training and supervision, the switch can lead to proliferation of reporting inaccuracies. On the other hand, a new coding system may offer other types of advantages.

Provider Involvement in Design

All these kinds of technical problems, and many more, must be resolved in one way or another before the reporting system is finally mandated. Satisfaction with their resolution will seldom, by the nature of the case, be complete, or even very high. However, it appears to be enhanced when hospitals and rate setting bodies work together in a systematic way, through some sort of committee structure, to iron out their differences.

In California, the state hospital association was largely responsible for the design of the accounting and reporting system. In Massachusetts, the Rate Setting Commission staff designed its own new reporting system. In most of the other states we studied the rate setting body had employed an accounting firm or other outside consultant to assume major responsibility for the design and/or modification of the system for local use. Under any of these alternative approaches, when representatives of the local hospital

association, chapters of the Hospital Financial Management Association and/or committees of experienced hospital financial managers worked as partners in the detailed design phase, the issues at least received a thorough airing. Reasonable compromises usually seemed to have been reached. When problems were intractable, at least all parties were fully informed and were satisfied that all avenues had been explored.

Conversely, where hospitals felt that they had not been sufficiently involved or consulted in the process of design, as was true in one state, acceptance of the new reporting system appeared to be grudging at best. When industry representatives have no professional stake in the reporting system's success, there appears to be more of a temptation to exploit its inevitable loopholes than to close them.

Hospital consultation appeared to be essential in the design of the reporting format, as well as its content. Apparently inconsequential differences may greatly affect the ease and accuracy with which entries can be made by the hospital employees who fill out the forms. The state that had sought minimal assistance from hospital representatives in the design stage had to revise its forms several times in the space of a few years to correct initial oversights.

Pretesting and Feedback

Only a few states conducted pretests of their reporting forms when they were still in draft. California mounted the most ambitious effort, testing in six hospitals, but neither theirs nor any of the other states' pretests were designed to permit rigorous evaluation. Nevertheless, all such exercises, however informal, were found to be extremely valuable in revealing places where changes needed to be made in the projected reporting system.

We noted earlier that the requirements of new laws often force rate setting programs to produce their reporting systems under severe time pressure. Nevertheless, even with extreme time constraints, it is possible to try out

a new reporting form at least on a pilot basis. In Massachusetts, for example, in August 1975, the legislature passed an emergency law that greatly expanded the Rate Setting Commission's previous responsibilities. requiring it for the first time to approve all changes in hospital charges.¹ To comply with this law's provisions, hospitals had to receive copies of their new reporting forms by the end of October, only three months later. After a few weeks crash effort by the commission staff, building as much as possible on the commission's previous hospital reporting system, a draft was presented at a public hearing. Subsequently, representatives of the Massachusetts Hospital Association, the Blue Cross, commercial insurance companies and the regional office of DHEW took part in more detailed discussions. As a result, the time schedule for the reporting switchover was modified. Then the commission conducted a number of technical review sessions with officers of the hospital association and the fiscal officers of five large Massachusetts hospitals, during which detailed aspects of each of the new draft schedules were reviewed. After initial revisions, the schedules were then tested at each of these hospitals. Feedback to the commission from these trials resulted in still further revisions. The final version of the reports were hand delivered to the hospitals on October 31st.

This same type of review process was followed in Washington, which also had to work within a schedule for implementation that, although not as tight as the one in Massachusetts, still allowed much less time for pre-testing than was felt to be needed. A pretest in three hospitals brought home the difficulties that small hospitals faced in trying to report according to an inappropriate number of detailed accounts. This, together with hospital association counsel, led to the commission's subsequent decision, noted earlier, to require only control account data from basic service hospitals, at least for the first few years.²

In both states, the process was facilitated by the fact that an existing reporting system was available to modify or build on, and that there was an established means of communication between the commission and the hospital industry through a standing committee established solely for the purpose of providing technical, rather than policy, input. The distinction

is important. As Clifton Gaus observed at the project's June 1975 conference, in the area of determining what costs are allowable under any form of reimbursement system, tension between rate setting bodies and hospitals is inevitable. On the other hand, since both parties have a common interest in an accurate and reliable data system, there is no reason why they cannot work together on its design and implementation.³

Such technical committees continue to perform important functions after the reporting system has been implemented. They provide feedback on difficulties that hospitals encounter, suggest appropriate revisions, and, equally important, work with the rate setting body to modify the reporting system to include new items that may be required to meet new information needs, such as for a new economic index or grouping system.

Lead Time for Implementation

The amount of time necessary to allow for hospitals to accomodate to a new reporting system before they are required to implement it depends on the nature and degree of changes that are introduced. The hospital must be familiar with the new requirements and the format long enough in advance of the beginning of the new reporting year so that its personnel can change their accustomed recording practices. Retrospective adjustments and estimations are an obvious source of error. Since the first year's report will usually constitute the base upon which future rate increases will be considered, reliable reporting and subsequent heavy auditing become particularly important for that year. If the system calls for a different account numbering system, as in California, Washington and Arizona, the other problems associated with changes are compounded by the need to reprogram hospitals' computer systems.*

* The new Arizona reporting system had not yet been implemented during the period of our study. The hospitals will begin to report under it during 1977 and 1978.

In Massachusetts, even though changes were confined to the reporting system, because many new categories and activity measures were to be introduced in the October 1975 forms, and since hospitals had not kept their records according to these new classifications and statistics, it was agreed that accurate reporting of 1975 data in the new mode would be impossible. The new system was required for the report on the hospitals' 1976 fiscal year that was just about to begin. In Washington, too, the commission gave the hospitals the final version of its new system just at the beginning of the 12 month period on which some of them were required to report.* On the other hand, hospitals in California and Arizona were given copies of the new manuals with a considerably longer lead time before their required use.

In the course of the project's interviews in Washington, we found a general consensus among hospitals and hospital association officials that the commission had had to move too fast in implementing its uniform accounting, reporting and budgeting system, and that the first year's budgeting system would have been much more successful had the hospitals had more time to accomodate to the new accounting system.⁴ A minimum lead time of 18 months was suggested for the hospitals to adapt to a new system and to use it for cost and budget reporting.

Hospitals in California, on the other hand, did not voice complaints about the time between introduction and implementation of the required reporting.

Introducing the Hospitals to the New System

The successful implementation of a new uniform accounting and reporting system appears to require a well thought out and extensive training program. None of the programs we studied where this double change was called

* The hospitals in Washington submit their reports on dates fixed in relation to their particular fiscal year end. The 119 hospitals operate according to a variety of fiscal years.

for were entirely satisfied with their efforts in these directions. In most instances the rate setting body assumed responsibility for convening workshops to explain the new system to the hospitals. These were usually organized as a cooperative effort with the state hospital association and/or the local chapter of the Hospital Financial Management Association (HFMA). The hospital associations and certain accounting firms under HFMA auspices often conducted additional sessions.

The Maryland commission offered two day training sessions conducted by the accounting firm that designed its reporting system. Unfortunately, as the commission now realizes, they were addressed more to hospital administrators than to financial officers.⁵

In Washington, five two-day workshops were offered, about six months into the hospitals' fiscal years.⁶ Both administrators and fiscal staff of medium and small hospitals attended; larger hospitals sent only financial management staff. Recognizing that many of the CPA firms in the area would be ultimately responsible for completing many of the hospitals' forms, the commission and the hospital association tried to attract them to the sessions. They sought to arrange that continuing education credits be given to firm representatives that attended. In any future attempts, they would try for even more emphasis on meeting the needs of both hospitals and accounting firms in joint sessions.

The California Hospital Association supplemented the initial orientation provided by the state commission with a series of workshops, some of which were directed to hospital accountants and other fiscal staff.

A common complaint voiced by those who conducted the workshops was that the hospitals come to them without having familiarized themselves with the system's written forms and instructions, thus wasting time that should have been devoted to matters not already covered. Later, back at their hospitals, as they grappled with the actual forms they found themselves with many unanswered questions, requiring duplicative individual communications with the rate setting body and/or the hospital association. Follow-up workshops, which any hospital could attend, were scheduled in both

California and Washington, and attendance was excellent.

The Washington commission believes that training in the use of the reporting system should be a continuing activity, not limited to initial orientation. They are now considering conducting periodic training and review sessions, some geared to the needs of newly employed fiscal staff in hospitals, some geared to more in-depth consideration of special issues, such as the recording of the standard units of measure. The Maryland commission also recognizes the need for followup sessions, but until recently has lacked the resources to conduct them.

The tradeoffs between organizing the workshops on a regional basis or on a hospital-size basis are not clear. Travel is difficult for the personnel of small hospitals. However, since the types of problems hospitals encounter in conforming to a new system are very different for hospitals of different levels of complexity, training could be better focused were they attended by peer group hospitals.

Computer Problems

We noted in Section 6 that uniform reporting can be accomplished by hospitals without major disruption to responsibility reporting through ample coding in the accounting system, and that the California accounting system was indeed designed with this purpose. However, when the hospitals there and in Washington adopted the new system, they had to switch to the new numbering system that had been prescribed. If they had been using another one, this created not only the kind of human resistance alluded to earlier, but also, to the extent that a hospital's accounts were computerized, created severe reprogramming problems.

Several of the California and Washington hospital association officials interviewed indicated that problems with computer service companies constituted one of the major obstacles to successful implementation of the new system. Rowland's paper reports some examples as follows: 7

In a few of Washington's hospitals with computerized record systems, the computer companies under contract to the hospital either went out of business or merged with other companies. These hospitals were left to cope with renegotiating computer contracts in the midst of trying to redesign their own accounting systems. One fiscal manager interviewed said that his hospital had two different computer companies and four computer company representatives during the twelve month implementation period.

Several observers in Washington and California reported that small hospitals whose accounting systems were not previously automated were in the best position to accommodate to the new accounting system. Those which were partially computerized often had the most problems, due to the difficulty of adapting their simplified computer system to a more detailed set of accounts and reporting requirement categories. Rowland describes the experience of a large hospital in Washington whose computer system is highly sophisticated:⁸

The commission's new chart of accounts had not yet been implemented because transformation required such extensive computer reprogramming. . . all the account numbers are now separately keyed to the AHA five-digit chart of accounts (pre-1976 edition), and all payroll codes matched to the AHA codes. Therefore, instead of internally switching the accounting numbers, the old account numbers were retained, and at the end of the year the computer was used to reclassify the information to conform with the commission accounts. Since most of the old accounts followed those of the commission except for the numbering system, the account numbers of the cost centers could be transformed by the computer. However, items such as employee fringe benefits and central supply revenues and expenses (which followed new conventions) had to be handled by reclassification. Because of the time-consuming nature of the reclassification process, it was anticipated that in the coming year the hospital would reorganize its internal system to use the commission's account numbering system. It was suspected that the conversion would prove to be time consuming and costly, although - admittedly - a one-time expense.

Recognizing the complexities of computer changeovers, the California Hospital Commission has provided hospitals with a three year option for the transition to a new numbering system.

Arrangements with Accounting Firms

Many hospitals employ accounting firms to prepare their Medicare cost reports and other financial reports to external agencies. Small hospitals are particularly dependent on these firms since they often lack personnel with skills to complete the package on their own. In some cases the local CPA firms viewed the Washington commission's report forms as so complex and time consuming that they did not want to take on the work.⁹ In several other cases, the accounting firm pulled out and left the hospital to fend for itself in completing the reporting package.

Another kind of problem was encountered in a region of the state where all hospitals happened to be on the same fiscal year and thus had to submit their reports at the same time. The local accounting firm that had always prepared their reports was simply unable to cope with the workload; reports had to be submitted late.

Administrative Burdens and Implementation Costs

One hospital financial manager of a 300 bed hospital, in describing the transition to the new system, claimed that it took him and his staff "thousands of hours" to fill out the forms that they had to submit.¹⁰ These hours were not spent in retroactive collection and review of data, but for identification and comprehension of the requirements and reworking of the data already supplied by his computer. He spent several days reviewing the forms to determine what was required. He then worked with the departments to tell them exactly what data was needed and with computer services to begin to get runs to show each department their cost picture. This early planning insured that the necessary data for completion of commission reports was collected throughout the year.

The Washington Hospital Commission's early estimates for start up and conversion to its new system ranged from \$10,000 to \$50,000 per hospital in direct one-time implementation costs. However, based on early reports

submitted in the first year, the estimate was revised downward to an average cost of only about \$5,000. In anecdotal reports of individual hospital experience, the cost usually ranged much higher. However, since the implementation costs are an allowable expense, evidence will soon be available to establish the actual facts of the matter.

The state programs all stressed the fact that the one-time conversion to a new accounting and reporting system should not be separated from the expected long-range benefits. More sophisticated information and budgeting can show hospital managers where their spending and utilization practices are out of line, and they can use these to demonstrate to their department heads the need to effect changes. Furthermore, the improved accuracy of the reporting should reduce the hospital's potential for loss under the lesser of costs or charges provisions of federal reimbursement programs.

Lessons from the State Programs

Were the decision made to adopt new uniform accounting and reporting systems for the nation's hospitals, whether these were to be mandated by each individual state or universally by the Federal government, the kinds of transition problems encountered in states that have already gone through this process would undoubtedly be replicated. In order to minimize these problems, a systematic evaluation of the Washington, California and Arizona experience should be undertaken and detailed recommendations presented. In the meantime, on the basis of the overview of this experience our project obtained, a few lessons seem to emerge.

In the first place, at least three or four years should be allowed to implement a system that requires transition to a new chart of accounts, a new reporting system and a new uniform budget. Less time might be needed if the changeover were to make fewer demands for adjustment, e.g., were the new AHA chart to be adopted and the Medicare cost report to be used as the framework for the new reporting system. Other lessons pertain to the special phases of design and implementation of the new system, and quality checks:

Design

- Hospitals and others directly concerned in either providing information or receiving reports from the system should be closely involved in its design. In particular, a technical advisory committee representing the hospitals should be established and be involved on a working basis in matters of detailed design. When the system is implemented, this committee should be a conduit for communicating specific day-to-day problems encountered both by data suppliers and users, and should be involved in finding ways to resolve them. This type of committee should be constituted separately from the structures established to determine policy.
- The choice of accounts to be reported must be governed by the specific needs of the particular rate setting system that is established, and the needs of other users. Beyond the minimum data set required for federal level monitoring, no more detail should be required to be reported than is planned to be used. This will avoid data overload on all parties. However, the full report form should be available to hospitals at the outset to facilitate the adjustment process, and they should be prepared to furnish more detail about particular components to the rate setting body at any time.
- The level of detail of required reporting may be different for hospitals of different characteristics. The special situation of small hospitals needs explicit recognition.
- Development of better statistical measures for allocation, as well as for product, should become a priority effort for the hospital industry and its regulators, both at the local and national levels. When new statistics are to be collected, the hospital should be given sufficient time in which to

acquaint the department heads with the new record keeping requirements. New statistics should be based on current hospital practice.

- A change in the numbering system by which hospitals keep their accounts creates possibilities for new recording and reporting errors, and, where systems are automated, requires extensive reprogramming. The costs and benefits of such a change should be calculated and weighed.
- The benefits of staggered reporting periods to accomodate differences in hospitals' fiscal years and to distribute the workload of rate review bodies, CPA firms and computer companies again, need to be balanced against the corresponding loss in the comparability of the reported data. If different reporting periods are to be used, those of peer group hospitals should be made compatible.
- Any new reporting and accounting system should be thoroughly pretested. Adequate time and resources should be allowed for this necessary step.

Implementation

- Orientation of hospital financial managers, accountants and other fiscal staff is essential to successful implementation. CPAs and others who provide consultant or computer services should be included in the sessions. Small workshops with advance distribution of training materials seem advisable. Sessions might most effectively be directed at peer group hospitals.
- Hospitals should be given at least six months in which to acquaint themselves and their staffs with the new reporting and accounting system before they are expected to start collecting data in the fashion prescribed. A considerably

longer time may have to be allowed to permit smooth transition to a new numbering system, particularly in hospitals where accounts are automated.

- Many hospitals will need technical assistance during the first years of implementation, and, as staff replacements occur, on a continuing basis. Adequate funds should be provided to meet these needs.

Data Quality Checks

- Under the best of circumstances, implementation of a new accounting and reporting system is accompanied by misunderstanding and misinterpretation of some of the policies and procedures, and opens up the potential for reducing the reliability of the data reported. During the phase-in period, intensive auditing should be conducted for at least three years to see that the hospitals follow the classification and reporting convention guidelines. Desk audit review to see that the numbers add up is not enough.

FOOTNOTES: SECTION 7

1. Bauer, Massachusetts, pp. 16-17.
2. Bauer, Washington, pp. 15-16.
3. Bauer, Uniform Reporting, pp. 78-79.
4. Diane Rowland, The Transition to Uniform Accounting and Reporting for Hospitals: Some Perspectives from Participants, Harvard Center for Community Health and Medical Care, Report Series R-45-13, April 1976. p. 22.
5. Bauer, Maryland, pp. 12-13.
6. Rowland, Transition, pp. 18-21.
7. Rowland, Transition, p. 27.
8. Rowland, Transition, p. 28.
9. Rowland, Transition, p. 29.
10. Rowland, Transition, p. 25.

PART III. EXTENDING THE USEFULNESS OF THE DATA

SECTION 8: ECONOMICAL DATA COLLECTION, ACCESS AND USE

In previous sections of this report we first reviewed the wide variety of information needed by rate setting bodies and monitoring agencies and then, narrowing our focus to data about hospital costs, discussed some of the issues involved in attempts to improve their reliability so as to permit rate setting based on comparisons of hospital performance. We now move on to consider some of the organizational problems that must be addressed if the vast volume of data we have described are to serve their purposes in the most economical and effective fashion.

The collection of data from and about hospitals is in itself a not inconsiderable charge against the health care dollar. Wiser and more cost effective use of these resources is certainly at least as important to strive for as in any other component of health spending. In this section we will consider several areas where improved efficiency seems indicated; first, by reducing waste in the collection and management of hospital cost data, second by improving rate setters' access to the secondary sources of data they need, third by improving their capability to analyze the various types of data they obtain from whatever source, and finally by putting these analyses to better use for influencing cost behavior in hospitals. Section 9 will examine the other side of this coin, the sharing by other agencies of the data that rate setting and monitoring bodies collect.

Duplicative Collection of Hospital Cost Data

As we have seen, the cost and budget reports that rate setters obtain usually comprise a large package of forms and schedules, and may call for the hospitals to adapt to a new accounting system. Although the types and volumes of data that rate setters require from the hospitals are rarely any more than what a good manager would collect for his own internal control purposes (and are usually much less), the time hospital personnel must spend to assemble the data and fill out the forms is not negligible.

Nevertheless, the general consensus among the hospital managers we interviewed in both California and Washington, where the reporting packages are the most extensive, was that the reporting demands of their respective commissions were not in themselves too difficult to satisfy. The problem lay with the multiplicity of similar packages that they were forced to complete - one set of schedules for the commission, another set for Medicare, another for Blue Cross, another for Medicaid, and so on.

Most of the data these various parties request from hospitals is the same, but they each use different forms, define and categorize the data in somewhat different ways, and often use different units of measure that require different methods of recording at the source. For example, some reports ask for counts of surgical procedures, some ask for counts of major and minor surgical procedures, some for operating room minutes.

The personnel and other costs attendant on complying with these different requirements are obviously much greater than if a single cost report served all these users. Besides the increased clerical, supervisory, and computer costs at the hospital level, the current duplicative or sometimes quadruplicative reports require that the rate setting agency and each of the third parties also employ their own staffs for editing, auditing, coding and processing the data they each receive. Each may use its own computer. While entirely logical explanations for this waste of money and effort are to be found in the history of the way Blue Cross plans, government payment programs, and rate setting programs developed in the U.S., the expense attached to such uncoordinated activity, when projected nationwide, must run into the millions. Given the need to rethink the allocation of scarce health dollars, in view of limited resources, some might question whether the money now going to the clerical personnel who attend to these duplicative systems might not be better spent on patient care.

Moves Toward Cooperative Data Collection and Processing

Fortunately, there are examples of a single cost and budget report

submission by hospitals serving many users within a region. Dumbaugh's study of the information system in Quebec illustrates how the annual report of the hospitals in that province serves as the basis for reimbursement and also serves the purposes of budget review, rate setting, and planning.¹ In the United States, with its many third party payers, such coordination is more difficult. Nevertheless, it is possible - as witness the New York and Massachusetts experience.

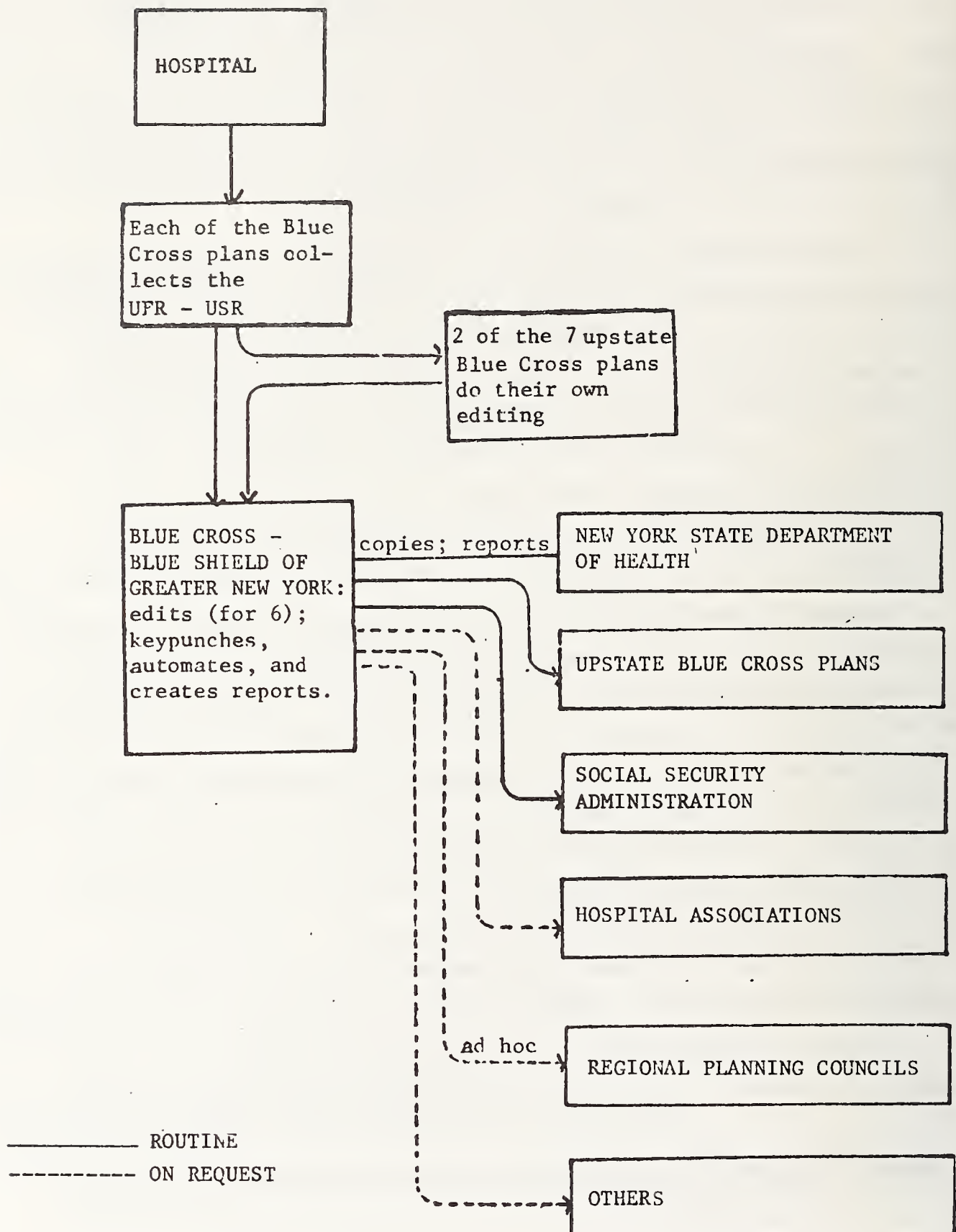
New York State provides a model of attempts to reduce the reporting burden on hospitals and to secure information at minimal cost. Its state-wide Uniform Financial Report (UFR) serves a variety of users and uses: the Medicaid and Medicare programs and the state's eight Blue Cross plans use it for determining hospital reimbursement; the Department of Health and the Blue Cross plans use it for establishing prospective rates. The statewide Uniform Statistical Report (USR), which furnishes the state and Blue Cross plan rate setters the data they need for hospital grouping, also serves a variety of other users to be noted in the section to follow.

Most of the editing, auditing and processing of these two reports are also centralized - for the most part under the aegis of Blue Cross - Blue Shield of Greater New York. The flow of UFR-USR information is illustrated in Exhibit L. As can be seen, each of the eight Blue Cross plans, which in New York are the fiscal intermediaries for Medicare, collects the UFRs from the hospitals in its area, then submits them to Blue Cross - Blue Shield of Greater New York for processing. Forty-five items from each UFR are entered into its computer.* Costs are shared among the users, who receive the reports, or UFR copies. In addition, as noted in an earlier section, the users cooperate in underwriting a single audit, and therefore can afford a larger audit staff than would otherwise be possible.²

In Massachusetts, the hospital cost report designed by the Rate Setting Commission for Medicaid rate setting and hospital charge review is

* Automation of data for rate setting is being studied by an SSA contract with the MITRE corporation.

EXHIBIT L: FLOW OF NEW YORK'S UNIFORM FINANCIAL
REPORT AND UNIFORM STATISTICAL REPORT



also used for Blue Cross reimbursement. Until 1976, the data were not automated. Now, however, the Massachusetts Blue Cross plan is entering into its computer selected items, agreed upon by both parties, and is beginning to generate routine reports for common use.

If a single report were to serve a variety of users under either the Model 1 or Model 2 option, the functions of collection, editing, auditing and processing could either be parceled out among the different user organizations or responsibility could be centralized in one organization. The project's advisory committee recommended three criteria to guide the choice of a central data manager:*

- cost effectiveness - whether or not a given processor is likely to perform efficiently and economically;
- operational feasibility - whether or not the processor has the immediate capability to do the work;
- acceptability of the processor to the users.

Access to Secondary Data: The Confidentiality Issue

As we saw in earlier sections, in order to make balanced decisions rate setting bodies need a great many types of information besides that which is furnished by hospitals in their cost/budget reports. Some of this can be obtained from publications, e.g., JCAH hospital accreditation, AMA residency approvals, and movements of economic indicators. Others may be collected from hospitals by other agencies. However, it may not necessarily be disclosed by them. If rate setters do not have access, they will either have to forego use of such information or make a duplicative collection. To the extent that rate decisions based on limited data are arbitrary and inequitable, appeals and protracted lawsuits will follow, adding to the overall costs of the process. The excessive costs of dual data collection are self-evidently wasteful.

* See Appendix B, page B-50.

Patient Utilization Data. The problem of rate setters' access to secondary data is especially acute as regards the many types of information needed from reports derived from patient discharge abstracts, e.g., patient origin information to delineate hospital service areas, hospital casemix profiles, length of stay profiles, patient age and sex characteristics, diagnostic casemix, types of surgical procedures, etc. As we have seen, such information can be obtained from the 17 standard items prescribed in the Uniform Hospital Discharge Data Set (UHDDS) which PSROs are required to collect on all patients paid for through federal programs. The data collection is funded by the federal government. However, the authority of state rate setting bodies to obtain profiles and other reports from PSROs is still unclear, according to the legal analysis prepared for our project by Strasser.³

Fortunately, at the Federal level, for potential Model 1 applications, the question of data sharing between the Social Security Administration and the Bureau of Quality Assurance seems to be resolving itself, permitting the types of analyses by ORS described in Section 4.

Were the Model 2 option to be adopted, the Federal enabling law should clarify the intent to make reports from PSRO data available to rate setters in aggregated form. A precedent was established in P.L. 93-641, which authorizes exchange of information between PSROs and Health System Agencies.

Quality of Care Analyses. The SSA studies evaluating the impact of rate setting programs encountered their greatest problems as they sought reliable indicators of trends in the quality of patient care in their study and control hospitals. Few were satisfied with the measures they eventually had to use, none of which included results of medical audit.

The issues that surround disclosure of information about the quality of care in different services of different hospitals are complex and delicate. Many rate setting states, including New York, Washington, and Maryland, operate under public disclosure laws, so that any reports their

programs might receive on the quality of care in hospitals would be matters of public record. In such instances, given a climate that already encourages malpractice suits, strong incentives would be set in motion in hospitals to fail to enter unfavorable items into the source records, and/or to set up a dual record system - one for public access, one for privileged information.* Such a result would not only defeat the purpose of the information sharing, but would also hamper internal efforts at quality control at the hospital itself.

Just because the issues are complex, however, does not mean that they can be avoided or swept under the rug. Rate setting bodies charged with making decisions on the expenditures of public funds cannot be in the position of subsidizing poor or harmful medical practices. If cost containment is an important objective, the sizable savings to be realized by reducing the incidence of iatrogenic illness cannot forever be ignored or foregone. Nor should rate setters allow themselves to drift into penny wise, pound foolish positions of starving out types of medical care that, while expensive in the short run, achieve savings in the long run, e.g., reconstructive surgery or other forms of rehabilitation that permit patients who would otherwise need long custodial care to resume independent living, or at the least, to achieve higher levels of self care.

On this issue, it would appear that rate setters should be able to make common cause with leaders in the medical profession and in the hospital industry to devise an acceptable means of linking hospital rate

* In many hospitals, the completeness with which quality measures are reported may not be high to begin with. One of the SSA evaluation studies attempted to use trends in hospital infection rates in the rate setting and control hospitals reported to PAS as an indicator of changes that might be associated with the advent of rate setting. Before doing so, a small sub-study was made to test the completeness of the hospital's reporting on this measure. Using medical records of patients with simple tonsillectomies as tracers, examination of temperature charts revealed results that appeared to contradict the low infection rates reported by many of the study hospitals. Thus, the project decided it could not employ reported rates of infection as a valid measure of quality. (Interview, Spectrum Research, April 18, 1975.)

setting with a quality of care monitoring system, perhaps under the auspices of the Joint Commission on the Accreditation of Hospitals. Serious attempts to effect such information linkages have been, to our knowledge, entirely lacking to date.*

Constraints on Ability to Analyze the Data that is Collected

Even if the right types of data of adequate quality are collected in a timely fashion for rate setting and monitoring decisionmaking, the entire investment will only pay off to the extent that these data are properly analyzed and used. Unfortunately, far too little attention appears to have been paid to the area of data analysis.

Post Hoc Specification of Types of Analyses Desired. Among the state rate setting or cost review programs we studied, instead of deciding in advance what reports they wished to have routinely generated from the reporting systems they were about to design, and identifying the data items and format accordingly, the process was usually reversed. To illustrate, the commissions or agencies in California, Washington, Arizona and Massachusetts all established committees to discuss the types of analyses they wanted only at a point in time long after their new reporting systems had been developed, promulgated, and put in place.^{4,5,6} The one exception we encountered was in New York, where in 1974, the Department of Health organized a committee representing all the major users of the Uniform Statistical Report, which met intensively over a period of several months to lay out the type of analyses they hoped to be able to obtain from a forthcoming revision of the statewide Uniform Statistical Report.⁷ The absence of such forethought as to the types of

* The director of the Maryland commission reported to our June 1975 conference that he had requested the Maryland Hospital Association to furnish him a list of the ten best quality and the ten worst quality hospitals in the state. Such an approach appears disingenuous, at best.

analyses desired undoubtedly leads to the expensive collection of many data items that are never used.

Thus, the project included the following criteria to guide development of uniform reporting systems:

- The particular kinds of information that decisionmakers need should determine the choice of data items to be reported and analyzed.
- Once the specific types of information that hospitals and outside reviewers want routine analyses to yield are clearly specified, dummy tables should be constructed. This should be done before the report system is designed, not afterwards.

Such exercises promote selectivity and economy. They relate to the overriding criterion that should govern all data collection - that reporting be geared to the particular objectives of the given program. As we have seen, however, few existing programs have had sufficient time to allow them to think through their objectives in sufficient detail to permit such parsimonious data collection. Circumstances have usually forced them to take the more costly route of asking for a wide universe of data. Later, they select from it the particular items they actually require.

Staff and Budget Constraints on the Analytic Capability. We have already noted that limited budgets usually prevent rate setting bodies from conducting the kind of audits they need to improve the quality of the data hospitals report. Similar constraints limit their access to staff capable of conducting the types of analyses they would like to make of the masses of data they acquire. The problem is compounded by the extreme time constraints within which most rate setting bodies must reach decisions. Usually, they have only 90 days in which to analyze the data and recommend each hospital's rate for the coming year. During the fall and winter of 1975-76, the executive director and the assistant director of the Washington Hospital Commission worked ten-hour days six days per week over

a three month period to analyze 73 hospital budgets and make recommendations to their commission. A similar schedule was maintained by the two top staff members of the Connecticut commission in 1976. On one occasion, they had to work around the clock for 32 hours in order to meet a deadline imposed by law.

With the exception of executive directors and one or two immediate associates who are generally exempt from civil service, state personnel system requirements and procedures often block the employment of qualified staff, even when the state provides sufficient budget and staff positions to carry out the rate setting function. Randall Smith's working paper for the project documents in detail how civil service regulations governing job classifications, recruitment, and promotions limit the rate setters' freedom to assemble the kind of multidisciplinary staff they require to address diverse needs.⁸ The position of budget analyst is usually interpreted to require a strict accountant type background; rarely is there flexibility to employ persons with a background in hospital management. Only two state rate setting bodies have a research arm that might enable analysis of hospital data from the perspective of health system cost-effectiveness goals and possibilities.

Civil service examinations, even for budget analysts with a financial background, may be written in a manner that prevents the hiring of the most qualified applicants. The examination questions usually pertain exclusively to generalized accounting important to the administration of government programs, and do not touch on the highly specialized domain of hospital cost and budget analysis.

State government salaries are rarely competitive with those offered by hospitals for corresponding positions in fiscal management. Thus, in many cases, rate setting agencies become training grounds for future hospital financial managers, who stay only long enough to learn the ins and outs of the regulatory system. Low compensation may also tempt staff to accept payoffs for favorable recommendations. The executive director of one state

rate setting body summed up the problem as follows: ⁹

Given the existing constraints, there is almost no way to recruit good people into state government or to retain good people if you get them. It often takes three to six months to actually get a new person on the state payroll. The personnel office usually wants to classify the person you want at a lower grade level than you think he deserves; by the time you've got a suitable level position approved, the person you approved it for has tired of waiting and taken another job. Then, assuming that you can eventually recruit someone you want and actually hire him, the lack of career ladders in state government means that even the mediocre people eventually leave. It's just a fact of life that without recognition and promotion, good people will leave state government. The dead wood, however, stay on. Once people get entrenched in government jobs it is extremely difficult to get rid of them, no matter how low their competency. Firing requires extensive documentation, and strong perseverance in withstanding the union.

The rate setting activities conducted by Blue Cross plans do not labor under these difficulties. On the contrary, they have maximum flexibility to hire executive, auditing and budget analysis personnel with the kinds of background they feel to be important, to pay them salaries commensurate with those they could expect to earn from hospitals, and, as in the case of Blue Cross of Western Pennsylvania, to establish a first class research arm to develop and test new types of rate setting methodology.¹⁰

In Massachusetts, the Rate Setting Commission has managed to minimize its problems with civil service by entering into a formal agreement with Massachusetts Blue Cross under which the report packages that hospitals submit are both audited and analyzed by personnel who are on the Blue Cross payroll, but who are hired at the sole pleasure of the Commission.¹¹ In Rhode Island, Blue Cross administers the budget review program that governs payment to all major payers; the state Budget Office employs a minimal number of analysts to work with them, but participates in all aspects of decisionmaking both on program policy and individual budget approvals.

In order to obtain the types of staff support required to make best use of the data collected under the Model 2 option, federal guidelines should permit similar types of arrangements to be made by other state

governments. Under a Model 1 option, the federal government would presumably delegate specific rate setting functions to intermediaries, or to well-functioning state commissions, as with the intermediary system through which Medicare cost reimbursement is now administered. Other means for ameliorating staffing problems under the Model 2 option could be:

- establishment of public authorities, exempt from civil service rules, to administer rate setting at the state level;
- federal government support for salaried positions;
- programs mounted by the federal government to provide special training and technical assistance to upgrade state rate setting staff.

Whatever the specific measures taken, many more resources and far greater attention needs to be devoted to the analysis of the data collected by rate setting bodies than is presently the case. It is wasteful and inefficient to collect data that are insufficiently or improperly analyzed.

Use of the Data to Influence Hospital Behavior

If the overall purpose of rate setting is to effect certain desired changes in hospital behavior, information based on sound analysis of reliable data can prove to be an important lever. At the project's advisory committee meeting, James Ingram observed: "The spotlight is perhaps the most effective tool a rate setter can have." The point is well illustrated by reference to the Vermont study of tonsillectomy rates, described in an earlier section. When the trustees of the hospital with the highest tonsillectomy rate in the state were told about their record, they took appropriate action. The medical staff was asked to develop criteria for performing the operation. A year later, this same hospital had the lowest rate in the state.¹² A similar experience in Canada is reported by Vayda. Soaring hysterectomy rates in Saskatchewan were brought to the attention of the provincial College of Physicians and Surgeons, who then developed criteria. A 13 percent

reduction in the incidence of this operation was achieved throughout the province in the course of a single year.¹³

Well presented comparative analyses of cost data can also spur change, but several conditions must be met:

- the particular norms must be clearly specified, so that the hospital can recognize where its own performance is out of line;
- analyses must be systematically brought to the attention of the particular individuals within the hospitals who are responsible for the cost aberrancy;
- the comparisons must be valid, i.e., where the source data from hospitals is not truly comparable and where a crude hospital grouping system yields comparison groups composed of unlike hospitals, such exercises only waste the time and resources of all parties concerned, and destroy the credibility of the review system.

Unfortunately, as we have seen, the art of hospital rate setting is not sufficiently well developed as yet to permit valid cost comparisons among hospitals. Nor are performance standards developed. Nevertheless, based on comparative analyses, questions can be presented to trustees and administrators that may lead to better performance accountability. They appear to be more effective when they are presented in a manner that recognizes the powerful role the physician exercises in spending decisions, and the problems the hospital administrators and trustees face in attempting to modify either his general attitudes toward spending or his particular spending proposals.

Trustees, legally responsible for the care and costs of their institution, should be encouraged by the rate setting body through workshops and distributed reports to look at their institution in comparison to others. Armed with comparative analyses of patient care service costs derived from functional reporting systems, comparative casemix profiles related to these costs, and documentation of levels of departmental cross-subsidization or other reports that the rate setter may provide, they may be able to give more informed direction to their institutions in identifying areas for cost control. Even more important, external reviews and

comparative analyses offer hospital management a powerful tool to force priority decision-making within their physician staffs. Both trustees and administrators often know that restraints should be exercised, but lack the power to apply them. Rate setting bodies can provide convenient scapegoats.

Hospital management can also use routine information feedback from rate setting bodies to identify specific areas of support services where internal control might improve performance - e.g., laundry, cafeteria, etc. Where costs are reported uniformly and where the hospital classification methodology is sufficiently sophisticated to yield groupings of true peer hospitals, as appears to be the case in the Washington program, inter-hospital comparisons can signal the need for special review of activities whose costs appear to be excessive. This type of feedback can also serve to motivate hospitals to improve the accuracy of their reporting. It must be strongly emphasized, however, that the value of comparative inter-hospital analysis is in direct proportion to its validity, and that few rate setting programs can as yet claim to meet high standards on this score.

In summary, under either a Model 1 or Model 2 rate setting program, more attention needs to be directed to the problem of how best to use analyses of hospital performance data to bring about changes in the internal decision-making processes of hospitals, so as to move towards goals of greater cost effectiveness.

FOOTNOTES: SECTION 8

1. Dumbaugh, Hospital Information Systems.
2. Bauer, New York, pp. 7-15.
3. Alan Strasser, Disclosure of PSRO Information to Hospital Rate Setting Bodies: A Legal Analysis, Harvard University Center for Community Health and Medical Care Report Series R-45-1, Boston, January 1976.
4. Bauer, Washington.
5. Rowland, Arizona.
6. Bauer, Massachusetts.
7. Bauer, New York.
8. Randall Smith, Living With Civil Service: The Massachusetts Experience, Harvard University Center for Community Health and Medical Care, Report Series R-45-4, Boston, March 1976.
9. Appendix B, page B-31.
10. Katharine G. Bauer, Containing Costs of Health Services Through Incentive Reimbursement, Harvard Center for Community Health and Medical Care, Boston, and Ford Foundation Seminar of the Delivery of Urban Health Services, 1973, p. 75.
11. Smith, Civil Service, pp. 10-12.
12. Robbins, Population-Based Data, p. 11.
13. Eugene Vayda, et al., "Surgical Rates in the Canadian Provinces, 1968-72, A Five Year Analysis," presented at the 103rd American Public Health Association Meeting, Chicago, November 18, 1975.

SECTION 9: SHARING RATE SETTING DATA WITH OTHER USERS

In the previous section we discussed the kinds of savings that could be made were rate setting bodies and reimbursement agencies to pool their data collection and processing efforts, and were rate setters to have systematic access to the various secondary sources of data they require. Here, we will review the possibilities for data sharing from the opposite point of view. Many of the kinds of data that are routinely collected from hospitals for purposes of rate setting, reimbursement, and monitoring are also needed by other users at all geopolitical levels. At a minimum, these other types of potential users include:

- policymakers in the legislative and executive branches of federal and state government;
- hospitals;
- federal, state and HSA planning agencies; state certificate of need bodies;
- utilization review bodies, at the federal and state level;
- hospital associations and other national associations with defined interests in health care analysis.

All these types of users, for their own purposes, need to analyze the services hospitals provide to patients, and/or to the populations they serve in relation to costs. Were they to draw more freely on the store of data rate setting bodies now routinely collect and, when occasion demands, engage in cooperative efforts for new types of data collection, again, the present cost burden of duplicative reporting and processing might be substantially reduced. At the same time, a much broader base of information would be available to inform public policy and specific program decisions.

This section will review some present activities now taking place along these lines in various states, both as regards the descriptive data about hospitals that rate setters acquire - that other agencies also may be asking hospitals to furnish - and as regards the cost data that only rate setters and third party payers presently collect. It will then discuss how the sharing of such data might be facilitated under a national rate setting program.

Rate Setting Reports as a Source of General Information about Hospitals

As we saw in Section 2, the later generations of rate setting programs usually collect a great deal of detailed descriptive data about each hospital in their jurisdiction, such as numbers and types of beds, detailed scope of services offered, number and mix of physician specialists, patterns of utilization and future institutional plans as expressed in long term capital budgets. All such data are also needed in some degree by state planning bodies and Health System Agencies (HSAs) as a basis for certificate of need reviews and for their plan development under the provisions of P.L. 93-641.

As a general rule, we found that when hospital rate setting and health planning functions were located within the same overall agency of state government, such as in the case of New York, New Jersey, Arizona and Connecticut, communication was facilitated. However, structure alone cannot be relied on; special efforts by agency heads are required to break through the natural tendency of organizational units to operate autonomously. Conversely, even when the organizational structure of government is less centralized, if the Governor's office and agency heads appreciate the benefits to be gained by pooling efforts to secure needed information and act accordingly, as is now the case in Washington and Massachusetts, the end result may be equally good.

In New York, the Uniform Statistical Report was designed as a common data collection instrument to serve not only the needs of rate setters and third party payers, but also those of planners, certificate of need reviewers, and the state licensing agency. The Department of Health, which administers the rate setting program and is also the State Health Planning and Development Agency (SHPDA), has been working with a committee of HSA representatives to devise ways to exploit this data base more fully in the future. The USR also constitutes an important resource for researchers conducting epidemiological studies, and its data are drawn upon by the Hospital Association of New York State for a variety of purposes.

In Arizona, Connecticut and New Jersey, which have no such common data collection form, descriptive data collected from hospitals for purposes of rate review are freely accessible for use in other connections. In particular, certificate of need reviewers use it to conduct cross checks on the accuracy of data that hospitals submit on their certificate of need applications.

The Washington State Hospital Commission, under a Cooperative Health Statistics System (CHSS) contract with the National Center for Health Statistics, shares hospital facilities data from its cost/budget package with state and local planning agencies, the certificate of need agency, the hospital association and other organizations. The level of detail on facilities and programs acquired by the commission (see Exhibit D in Section 1.) far exceeds the CHSS required minimum data set.¹ Likewise, as we noted earlier, the state planning agency routinely receives a copy of each hospital's statement of purpose and its accompanying long range capital budget to use in reviewing each region's present and future hospital resources. The commission also shares with certificate of need reviewers its information on occupancy rates for hospitals by region, along with other types of utilization, scope of service and manpower data as requested.

However, despite these examples of successful cooperation, we had the impression that agencies in most state governments, as well as local planning agencies, were not fully aware of the wealth of general descriptive information about hospitals that is being collected annually by rate setters. In consequence, this resource is not being tapped as extensively as it might be were the interests of economical data collection and use to be fully served.

Cooperative Activities to Develop New Data

It was encouraging, on the other hand, to find that in several states, official and voluntary agencies have been working together to develop a few commonly needed types of information not formerly available.

In Rhode Island, for example, the hospital association, the Blue Cross plan, the state Department of Health and the voluntary Health Planning Council jointly designed and implemented the system of hospital monitoring described in Section 4. They designed a short form, filled out monthly by each hospital, that keeps a running score on the hospital's expenditures, volume and length of stay performance in relation to its approved prospective budget, a question of concern to all parties. The Health Planning Council serves as the collecting and distributing agency for the information.

Rate setting bodies in several states are members of CHSS sponsored consortiums formed to develop mechanisms for the collection and dissemination of patient data from uniform discharge data systems. The effort by the Maryland commission has been successful. Here, an information broker, the Maryland Resource Center, Inc., was established to reconcile patient discharge abstract reports from PAS and other systems, to monitor the quality of the data data, to develop disclosure agreements, and to produce reports for various users, i.e., PSROs, planning agencies, the commission, and hospitals. The arrangement is the fruit of more than five years of planning effort. The commission expects to receive and begin using reports on patient characteristics and casemix in 1977.²

Cost Data from Rate Setting Reports

The data most frequently sought from rate setting reports are, of course, items on hospital costs. State governors have increasingly come to look to certificate of need agencies as instruments for controlling expensive proliferation of facilities and programs, rather than for improving the distribution and quality of services (the original goals of New York's pioneering CON program in 1965). In response, CON agencies are recognizing the need to analyze more systematically the cost consequences of hospital proposals for expansion or replacement of facilities and major equipment. In some states, notably Rhode Island and Massachusetts, rate setting bodies also press them to project the effect of new programs

on an institution's future operating costs.

Although most rate setting bodies make their cost data and cost analyses freely available to planning agencies and certificate of need reviewers, these organizations rarely have the kind of staff expertise to use them. Altman's study on connections between rate setting and planning in Maryland illustrates how this may lead to poor communication - a problem that is exacerbated when rate setters and planners operate according to different values and goals.³

In Massachusetts, rate setting and certificate of need regulation at first functioned in isolation, but have steadily moved towards interdigititation. Because the CON program began operations two years before the Rate Setting Commission began to set Medicaid rates prospectively, the Commission soon found itself confronted with rate appeals from hospitals stemming from CON approved projects. In reviewing these appeals, the commission found substantial cost overruns from what hospitals had originally estimated in their CON applications, driving both their capital and operating costs far above previous levels. In an attempt to exercise more control over such situations in the future, a close liaison between rate setting and certificate of need agency staff has now been developed. It has been actively encouraged by an interagency Health Policy Group composed of all the principal actors in the state, who meet every two weeks to explore areas of common interest and to air and resolve interagency issues.* Several of the many activities in which the CON and rate setting bodies have jointly been engaging involve the sharing and use of hospital cost data. For example, the rate setting staff makes fiscal impact and financial feasibility analyses for each major CON application, based on the data in its files that document the actual cost experience of similar projects that had already been approved. The rate setting staff also

* The group includes the Commissioners of Public Welfare, Insurance, Elder Affairs, Corrections, Public Health, Mental Health and the Rate Setting Commission.

helped the CON agency staff learn how to make similar projections for minor project applications, and they provide consultation and guidance as requested.

In New York, the sharing of cost data in the conduct of financial feasibility studies has long been routinized. In Arizona and Connecticut, budget review and certificate of need staff exchange hospital cost information on a more informal basis. Experience in these three states is described in the project working paper by Brown, Rowland and Sweetland.⁴

State health planning agencies and HSAs have many other needs for hospital cost data, especially in connection with the development of their P.L. 93-641 plans. Access to such data from rate setting states should prove helpful, providing that they receive suitable instruction as to how to use and interpret it. In Massachusetts, as the Rate Setting Commission and Blue Cross began to spell out the computer reports they wanted to be produced from their newly automated hospital cost package of schedules, the HSAs were given the opportunity to specify analyses that would prove useful to them. In August 1976, an HSA committee submitted a detailed draft of such information requests. Analyses, currently being worked out jointly by HSA and Rate Setting Commission staff, will begin to be available in January 1977.

Were a national rate setting program to be adopted that followed the Model 2 configuration, each state would presumably continue to work out its own means of making cost data available to SHPDAs and local planners. However, federally funded training programs would greatly improve the capabilities of these agencies to use it.

If the Uniform Hospital Cost Data Set (UHCDS) we have recommended to meet DHEW's monitoring and evaluation responsibilities under either Model 1 or Model 2 configurations of a national rate setting program were to be developed, data collected for purposes of rate setting could also provide an important resource for informing public policy.

At the national level, the UHCDS could serve as the basis for timely analysis of the impact of many types of DHEW programs on hospital

costs, and thus meet presently unmet information needs both in the Office of the Assistant Secretary for Health, and in many other DHEW agencies. Such analyses could also meet information needs of appropriate Congressional committees. By the same token, the availability of a timely UHCDS could also serve the purposes of legislators and health policy-makers at the state level. While budget crises in many state governments stem in large part from soaring expenditures for hospital care for Medicaid recipients, essential information on which to base corrective actions is usually lacking, even in states with rate setting programs. For example, when legislators ask what proportion of expenditures go for elective surgery, there is no ready answer. The types of population based analyses of hospital expenditures, described in Section 4, should prove to be particularly valuable to all these types of users.

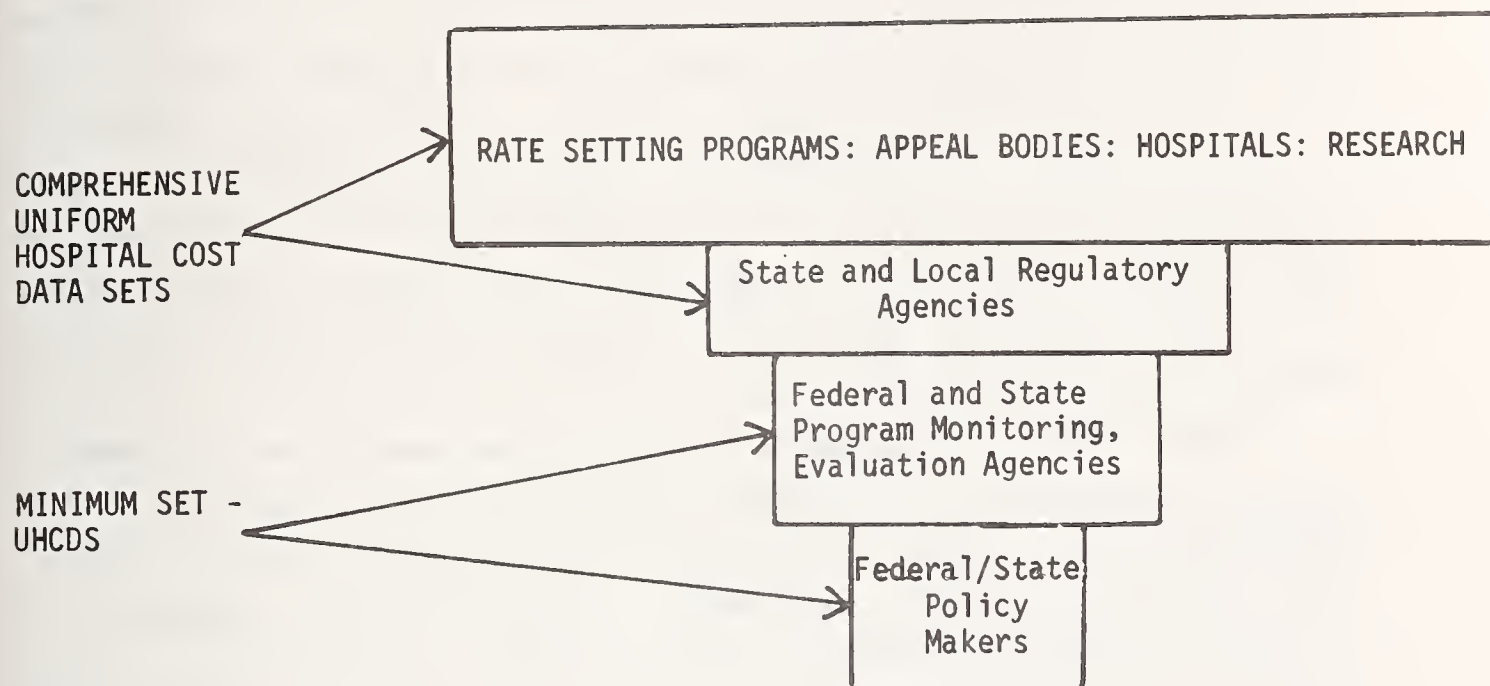
Different Levels of Detail Required

In the design of multipurpose minimum data sets, questions surrounding the proper identification of the data items to be included become crucial. It was beyond the scope of our study to try to identify specific data items for reporting systems. However, it is clear that widely differing degrees of detail are required by different users. As we have seen, rate setting and appeal bodies require a vast range of detailed data from their own reporting systems and from other sources, as do hospitals and researchers engaged in special studies. Planning agencies and state regulatory bodies may also require considerably more extensive data than they might be able to obtain from the UHCDS, though usually less than do the rate setting bodies (depending on the rate setting methodology employed). These reporting systems can also supply other types of data for special research projects if so planned. Often the addition of only a few items to an ongoing report can obviate the need for a whole new data collection effort by another agency.

Presumably, SSA would use the full UCHDS for program monitoring and

evaluation; federal and state policymaking bodies might require only large aggregations of relatively few data items. The likely relation of these various users to the comprehensive data base developed for rate setting and appeals, and to the minimum data set developed for program evaluation and monitoring is illustrated in Exhibit M below.

EXHIBIT M: LEVELS OF DETAIL ON HOSPITAL COST DATA
REQUIRED BY DIFFERENT TYPES OF USERS



Developing a Uniform Hospital Cost Data Set to Serve Multiple Users

The criteria developed to select data items for SSA's Limited Data Abstraction Program for the Medicare Cost Report, and the items selected for the AHA - SSA National Hospital Panel Survey, described in Section 4, should provide a helpful start towards developing a UHCDS. Presumably, a core of items could be extracted from these sources. Other users, however, might have different criteria for selecting the items.

Behind the question of what items are to be specified for a minimum hospital cost data set lies the question of who should specify them. Under both Model 1 and Model 2 configurations, it would appear that the responsibility would clearly lie with the Secretary of DHEW. SSA's data needs would obviously be given prime consideration and final say because of its administrative responsibilities for evaluating and monitoring rate setting programs.

As we have suggested, were the Secretary to prescribe a uniform methodology for rate setting to apply to all the states, he would also have to prescribe, at the federal level, whatever full set of data elements were required to implement that system, as well as a spinoff of a minimum set. Under the Model 2 configuration, the states should also employ a uniform report to the extent necessary to furnish DHEW with a standard federally specified UHCDS from each hospital for monitoring, but they would be free to add other data elements as necessary to implement their own rate setting methodologies.

Under either of these models, the desired economies from a uniform cost data set are likely to be achieved only if there is full participation by the other major users, as well as the providers of data, in the earliest stages of its development. Without such participation it is likely that their information needs would not be met and that they would continue their duplicative collections. In addition, the system would run increased risks of technical flaws. Besides, SSA and the several other bureaus and divisions within DHEW that would require some or all of the data for policy analysis and for program evaluation, representatives of AHA, HFMA, BCA, APHA, and other appropriate national associations with defined interests in health care cost analysis would most profitably be involved, and at a stage where they could make their particular information needs known, i.e., specify the questions they hope could be answered from the UHCDS. Under the Model 2 configuration, state rate setting agencies would also want a voice in

UHCDS design. State regulatory agencies and PSRO organizations might also wish to be represented.

This broad data user-provider participation would, one assumes, be pursued through the committee process, and would focus on discussions of the hard choices among specific items that have to be met in arriving at any common data set.

Again, if the UHCDS is to be designed to promote economies in data collection and analysis, the designers must strive for maximum compatibility of the classifications and definitions proposed for the new set with those employed in existing sets, in line with the overall policies set forth in the report from the DHEW Health Data Policy Committee to the Assistant Secretary for Health and the Secretary of the Department of Health, Education, and Welfare, in November 1975.⁵ This report makes clear that, in addition to a mechanism for making the needs of multiple users explicit in the pre-design stage through formal committee structures, the many methodological and technical questions that need to be considered in designing a multipurpose data set must be addressed by special committees representing a broad spectrum of technical expertise.

Our project has not attempted to spell out what particular committee structures might be appropriate for developing a UHCDS. It is assumed that the division of responsibilities for any such task would proceed under the general leadership of the Health Data Policy Committee and the U.S. National Committee for Vital and Health Statistics and that the policies enunciated in the Health Statistics Plan would be followed.*

Many of the decision criteria and guidelines for developing minimum data sets and collection systems have already been worked through at the 1972 Airlee House Conference on the Uniform Hospital Discharge Abstract and in

* The project staff is not unaware of the difficulties and frustrations that have attended the development and acceptance of a uniform hospital claim form. However, we cannot visualize an alternative type of process that would have yielded better agreement.

subsequent efforts. A recent listing was submitted by the Technical Consultant Panel on the Uniform Hospital Discharge Data Set to the U.S. National Committee on Vital and Health Statistics. We quote the following excerpts, with our additions noted in brackets:

- Data items [must be] useful to multiple users. . . ;
- Items [should be selected] which can be readily collected with reasonable accuracy and economy;
- Items [should be included only if their] continuous collection is necessary;
- . . .collection should not unnecessarily duplicate data available from other sources;
- Items collected should preserve confidentiality of information, but enable public accountability;
- Cost benefit factors to both data providers and users must be considered (in both the minimum set and collection mechanisms);
- Data items common to multiple data sets must be uniformly defined across data sets.

While awaiting the development and implementation of a minimum hospital cost data set, top officials at both the Federal and state levels of government should actively encourage the sharing of data collected by rate setting bodies with other potential agency users, and vice versa. Effective communication among planning, certificate of need, and utilization monitoring agencies and rate setters is essential to implement coordinated policies that will improve the cost effectiveness of health care spending.

FOOTNOTES: SECTION 9

1. Bauer, Washington, pp. 7-9.
2. Bauer, Maryland, p. 7.
3. Altman, Connections, pp. 17-18, 68-69.
4. Brown, et al., Exchange of Information.
5. United States, Department of Health, Education, and Welfare, Public Health Service, Health Statistics Plan, Fiscal Years 1976 - 1977, Washington, D.C., November 1975, p. 21.

APPENDIX A: LIST OF PROJECT WORKING PAPERS, 1975 - 1976

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CONFERENCE REPORT:

- Uniform Reporting for Hospital Rate Reviews: Criteria to Guide Development and Proceedings of a 1975 Conference, Katharine G. Bauer, Principal Associate, Harvard Center for Community Health.

REVIEWS OF INFORMATION SYSTEMS:

1. Medicare

- Data Rich and Information Poor: Medicare's Resources for Prospective Rate Setting, R-45-12. Diane Rowland, Associate, Harvard Center for Community Health.

Each of the record systems developed by SSA to administer or or monitor the Medicare programs is briefly described. Problems of information integration and sharing within SSA are discussed, particularly as they might affect the adaptation of the data base to possible future rate setting or rate-setting program monitoring needs.

2. Quebec

- Hospital Information Systems in the Province of Quebec, R-45-2. Karin Dumbaugh, Instructor in Health Services, Harvard School of Public Health.

Detailed description of the various streams of data used for hospital rate setting in Quebec, the original rationale for its collection, and evolution of the system over time, together with description of the relation of the provincial to the federal reporting systems in Canada.

3. Reports on Five State Rate Setting Programs

Each state report covers: relation of information collected to the rate setting program's particular objectives and process; types of data available; how the reporting system were developed; characteristics of the reporting system; validating, managing and using the information; data sharing with other agencies; appraisal of the present information in light of criteria; future plans. Selected schedules from the program's

reporting forms are included as well as lists of output measures and natural expense classifications. An appraisal of the strengths and limitations of each information system is made in accordance with the criteria developed for the project's 1975 conference on uniform reporting.

- Information Available for Hospital Rate Setting in Washington State (R-45-7). Katharine G. Bauer.
- Information Available for Rate Setting in Maryland (R-45-8). Katharine G. Bauer.
- Information Available for Hospital Rate Setting in Massachusetts (R-45-9). Katharine G. Bauer.
- Information Available for Hospital Rate Setting in New York State (R-45-10). Katharine G. Bauer.
- Information Available for Hospital Rate Review in Arizona (R-45-13) Diane Rowland.

QUESTIONS OF INFORMATION INTEGRATION AND USE

- The Uses of Population-Based Data for Rate Setting (R-45-5). Jennifer Robbins, Consultant to Project.
The potentialities for linking related hospital cost and utilization data to population data to produce comparative rates for different geographic areas are explored. Such exercises are necessary to raise questions on the relation of hospitals' costs, equity of access and appropriateness and effectiveness of care.
- The Transition to Uniform Accounting and Reporting for Hospitals: Some Perspectives from Participants (R-45-13). Diane Rowland.
Case examples in California and Washington illustrate the types of problems that are encountered in a statewide shiftover to a new hospital accounting and reporting system, and the report discusses various ways by which the transition period might be made easier.
- Connections Between Rate Setting and Planning in Maryland and Rhode Island (R-45-6). Drew Altman, Department of Political Science, M.I.T.
The study describes formal and informal connections between rate setting and planning agencies in Maryland and Rhode Island, revealed in practices of their information use. It notes features

- of local history and organizational structure that appear to have influenced the notably different strengths of these connections in the two states.
- Exchanges of Information Between Hospital Rate Setting and Certificate of Need Agencies: Selected State Experiences (R-45-14). Jonathathan B. Brown, Public Policy Program, Kennedy School of Government, Harvard University, Diane Rowland, and Margaret Sweetland, Consultant to the Project.
- Disclosure of PSRO Information to Hospital Rate Setting Bodies: A Legal Analysis (R-45-1). Alan Strasser, Harvard Law School.
The April 1975 PSRO draft provisions on disclosure are analyzed in respect to possible limitations on the use of PSRO data by state rate-setting bodies. The disclosure questions posed are then reviewed in the context of relevant provisions of the Freedom of Information and Privacy Acts.
- Living With Civil Service: The Massachusetts Experience (R-45-4). Randall Smith, Public Policy Program, Kennedy School of Government, Harvard University.
Case study of civil service in Massachusetts, documenting some of the problems of attracting qualified professionals to state employment and suggesting ways to accomodate to them.
- Information Problems Experienced in Regulating Public Utilities and Parallels in Hospital Rate Setting (R-45-3). Bruce Stangle, Sloan School, M.I.T., and Katharine G. Bauer.
The literature on information problems encountered by such long established regulatory agencies as the Federal Power Commission and the Interstate Commerce Commission are reviewed, and parallels are drawn to problems encountered by hospital rate reviewers.

APPENDIX B

PROCEEDINGS OF ADVISORY COMMITTEE MEETING, MAY 5-6, 1976

INTRODUCTION AND AGENDA SUMMARY

The draft recommendations of the foregoing report were reviewed by an advisory committee at a two day conference held in Arlington, Virginia, on 5-6 May 1976. The members were selected to provide a wide range of perspectives, including those of state rate setting agencies, hospital associations, Blue Cross, and scholars with special backgrounds and interests in health regulation and health information. The committee membership was as follows:

Gordon R. Cumming	Director, Division of Research and Development, California Hospital Association
William Dowling	Director, Graduate Program in Health Services Administration and Planning, School of Public Health and Community Medicine, University of Washington
Bernard Forand	Executive Director, Commission on Hospitals and Health Care of Connecticut
James Ingram	Partner Ingram, Weitzman, Mertens and Co., Inc.
William McCann	Assistant Commissioner, Division of Health Economics, New York State Department of Health
Allen J. Manzano	Vice President, American Hospital Association
Bernard Tresnowski	Senior Vice President, Federal Programs and Health Care Services, Blue Cross Association of America
Stephen M. Weiner	Chairman Massachusetts Rate Setting Commission
Kerr White, M.D.*	Chairman, U.S. National Committee on Vital and Health Statistics

Katharine Bauer, of the Harvard Center for Community Health and Medical Care, who directs the project, and Diane Rowland, her associate, participated in

* Dr. White was unable to attend the meeting.

the discussions. Dr. Clifton R. Gaus, Director, Division of Health Insurance Studies, Office of Research and Statistics, whose office sponsored the project contract with Harvard, attended the meeting both as an observer and as a participant. At Dr. Gaus's invitation, various officials and staff members from the Social Security Administration and other agencies within the Department of Health, Education, and Welfare attended the meeting as guests.

The meeting agenda was structured to encourage systematic discussion of the project's major findings and recommendations. These were outlined in background materials circulated to the advisory committee members in advance of the meeting; they covered the same ground and followed much the same outline as does the final report to which these proceedings are appended. In preparation for the meeting, each advisory committee member was asked to review a particular topic covered in the project's findings and recommendations as set forth in the background document, and to contribute his own observations on some aspect of this topic at the meeting, to set the stage for discussion.

These committee presentations were ordered within the context of the following framework. The first session, on the morning of May 5th, was to focus on two topics: the changing scope of the information perceived to be required for hospital rate setting, and the need for a uniform minimum cost data set. James Ingram led off by describing the development of the reporting system with which he had been closely associated in New York, and which is used in that state's pioneering rate setting programs. Gordon Cumming, who followed, had recently been involved in the design of a 1976 rate setting proposal for California hospitals that required a far broader range of information and that could draw on financial data from the uniform accounting and reporting system recently introduced in California. During the second part of this opening session, Katharine Bauer presented the rationale behind the project's recommendation for a uniform minimum hospital cost data set.

Following the morning session, Dr. Clifton R. Gaus gave a luncheon talk in which he described to the committee how SSA's Office of Research and Statistics is preparing for new responsibilities under present and proposed federal legislation.

The afternoon session on May 5th focused on the organizational obstacles that limit the availability and use of information needed for rate setting. Diane Rowland opened the session with a general overview. Bernard Forand then discussed the constraints of insufficient budgets and personnel system regulations that often limit state rate setting officials' ability to secure qualified support staff in sufficient numbers to perform the desired analyses of the data reported by hospitals. Next, Allen Manzano talked about the frustrations hospitals encounter in trying to comply with the information demands of many different regulatory agencies. Stephen M. Weiner concluded the session by discussing the actual and potential role that information can play in linking the activities of different state regulatory agencies.

At the May 6th morning session, again, two general topics were covered: first, the management of information identified as necessary for hospital rate setting, and, second, caveats to be heeded when hospitals are required to adopt new accounting and reporting systems. Addressing the first of these topics, William McCann described the advantages to be gained by having centrally managed uniform financial reports designed to serve multiple users; Bernard Tresnowski put forth some criteria to be considered in selecting local level managers of hospital financial data. Addressing the second topic, William Dowling commented on the project's recommendations on ways to ease hospital's transition to new reporting systems. Finally, at the May 6th afternoon session, Katharine Bauer reviewed the project's draft recommendations and noted the changes that had been suggested during the course of the earlier sessions.

The reader may have noted from the foregoing that this advisory

committee meeting agenda did not cover several important findings and recommendations of the project, namely, those that relate to improving the quality of the information that should be available for hospital rate setting, appeals, evaluation and program monitoring. This was an intentional omission, since these questions had already been dealt with at length in the project's June 1975 conference on issues in uniform reporting. (See Appendix C for the Conference Summary and list of participants.)

The reader will also discover in the pages to follow that the presentations and discussions at the advisory committee meeting often strayed from strict adherence to the agenda we have just outlined, adding color, interest and fresh insights along the way. Nevertheless, thanks to the skill of the moderators of the sessions, William Dowling, Gordon Cumming and Stephen Weiner, the committee was always led back to consideration of the main questions at hand, so that all agenda topics were duly covered.

In writing up these proceedings we faced a dilemma. Since the individual presentations and general discussions were so closely geared to the project's background expositions of the rationale for its draft recommendations, incorporated in the document sent to the committee members, there were strong arguments for including these materials here, as separate sections prefatory to each meeting session and topic. This would have been necessary had the proceedings been produced as a separate document. However, this treatment would have entailed extensive duplication of the final project report. The format we have chosen, with the discussions keyed to sections of the main report, seemed to offer the best solution. As will be seen, however, many of the project draft recommendations have been included. Most of the advisory committee's suggestions put forward at the meeting for improving or sharpening these recommendations are reflected directly in the final report. It has also incorporated many of the important observations made by individual committee members and reported in the pages that follow.

Special thanks are due to Diane Rowland upon whose careful notes this written account of the proceedings depend.

MORNING SESSION, MAY 5TH

Katharine Bauer opened the meeting by welcoming and introducing the advisory committee members and the observers, noting with regret the unavoidable absence of Dr. Kerr White. She then sketched the purpose of the project's work on information for hospital rate setting and thanked the advisory committee for undertaking to review its recommendations.

To put the forthcoming discussions in broad perspective, she stated that the project had operated on two broad sets of assumptions. First, the unbridled rate of increase in hospital costs throughout the nation will inevitably continue to call forth ever-mounting counteractions by government and other third party payers. The only question is whether such counteractions will take the form of skilled surgery that attacks discrete problem areas, or whether they will take the form of meat axe swings that in crude attempts to cut fat also injure or destroy the muscle and nerve of the complex hospital organism. If interventions are to be fine tuned, rate setters must have access to fine tuned data - of a much broader range and of far better quality than is now available to them.

The second set of assumptions on which the project has operated is that rate regulation alone is unlikely to accomplish appreciable cost containment, since the underlying causes of excess costs are systemic. Thus, effective control demands coordination of rate setting with hospital planning, certificate of need, utilization review and licensure. Many of the types of information that sophisticated rate setting requires are also needed for planning and other forms of hospital regulation--and vice versa. Thus, in the interests of economy and efficiency, any recommendations for better rate setting information should stress mechanisms for maximum coordination of data collection and analysis by all potential users.

Bauer then explained that the Harvard project had not been charged with identifying specific data elements for hospital rate setting, but rather with identifying the range and types of information needed, the

actual and potential sources of that information, and the technical and organizational obstacles that block its access. She noted that, for the most part, the recommendations to be reviewed at this meeting concern ways by which present obstacles might be overcome, given two possible models for a national rate setting program (see page 11 of the main report.) Model 1 follows the Medicare program administrative pattern - direct responsibility centered at the federal level with certain functions contracted out to regional level intermediaries; Model 2 follows the Medicaid pattern - state government responsibility under federal guidelines.

Bauer then turned the meeting over to William Dowling, moderator for the morning session.

The Expanding Scope of Information Desired for Hospital Rate Setting

Dowling observed that an appreciation of the changing information needs of rate setters was necessary for the discussions to follow. Referring to the project's descriptions of the information currently used by various rate setting programs and its rationale for an ideal range of data types, he noted that one can identify different generations of rate setting programs. Although they have evolved in more or less historical sequence, programs typifying each generation are now operating concurrently in various parts of the nation. Some programs incorporate features of several generations.

One early generation of rate setting programs focused almost entirely on the question of appropriateness of hospital costs per day increases from year to year in relation to economic inflation.* The New York programs are examples. They depend on a quite narrow range of data relevant for reimbursement purposes largely derived from reporting forms similar to the Medicare cost report. Furthermore, although they require hospitals to submit their cost and volume data to the rate setting program on a common form, the particular items

* See page 54 of this report, which also describes the first generation rate setting programs established by several Blue Cross plans prior to the New York effort.

the hospitals enter on the form are rarely comparable from one institution to the next. In the absence of uniform accounting and reporting systems expressly designed to be compatible for purposes of external review, different hospitals quite naturally define cost centers, services, and activity measures according to their own customs and their own management purposes.

Another generation, typified by the Maryland and New Jersey rate setting programs, focuses on measuring and comparing the efficiency of production in and among hospitals, searching for increasingly fine levels of unit costs. This means computing relationships of direct costs (before allocation) to such factors as occupancy levels, man-hours per patient day, etc., for different hospital services (medical/surgical; obstetrics; pediatrics; salary levels, etc.) Since such analyses cannot be performed reliably in the absence of uniform accounting and reporting systems, which prescribe cost centers, input measures, output measures, etc., the programs developed and implemented such systems. In accord with them, hospitals report a far greater wealth of detail on their costs and volumes of activities than was called for in the first generation programs.

A successor generation, exemplified by the Washington program, recognizes a far wider breadth of factors that influence differences in hospitals' costs. Such a program explicitly recognizes the impact on costs deriving from differences in hospitals' scope of services, and in their mixes of program and manpower resources. Moreover, we are now witnessing attempts to enlarge the data base so as to allow patient casemix to be taken into systematic account, although the methodology for doing so is still not well developed. Other advanced generation characteristics are closer attention to volume controls and to trends in hospitals' financial status, and their future capital requirements. This, in turn, has led to a new interest by rate setters in independent appraisals, such as those by PRSOs, planning and certificate of need review agencies, of the appropriateness of the hospital services themselves in terms of quality and community need. At a minimum, as they make decisions on rates to support new and expanded

facilities and programs, most rate setters now want solid information to justify the costs of institutional growth.

James Ingram, who had been instrumental in the design of the cost report that undergirds New York's rate setting formula system, then took the floor. New York developed the first statewide rate setting program, in operation since 1970 under a state cost control law passed in 1969. Blue Cross plans recommend prospective per diem rates for their member hospitals to the state, which reviews and finally establishes them, as well as directly establishing all hospital rates under the Medicaid program. The rate setting method projects hospital costs from the current and base year forward according to a formula that adjusts for inflation factors. "It is," Ingram observed, "a macro method, based on a macro objective - namely, to keep the rate of hospital per diem cost increase in line with the movement of general wage and price increase in the geographic area where the hospital is located. The projected rates establish limits for hospital managers; the program does not attempt to operate as an external review agency to tell them how to run their institutions. Rate setters shouldn't try to do this - they don't have the expertise."

In part, the choice of the rate setting method in New York was influenced by the existing state of the art of cost information. "We had to work with the tools we had."* A major source of information was already in place and available, the Uniform Financial Report (UFR), designed for other purposes long before (in 1961) and laboriously improved under Blue Cross auspices during the interval. Its strengths and weaknesses were well known to those who developed the rate setting method. This UFR report, which in 1966 became the prototype for the Medicare Cost Report, gives a reasonably accurate summary of each hospital's major costs and activity volumes. However, in many areas it is not filled out in conformance with standard definitions (for example, no standard definition of "full time equivalent"

* See Katharine G. Bauer, Information Available for Hospital Rate Setting in New York State, Harvard Center for Community Health and Medical Care Series R-45-10, Boston, April 1976, a working paper of this project.

is employed); nor is there a reclassification procedure to yield comparable standard functional accounts. Thus, had the New York Blue Cross and state designers wished to make detailed unit cost comparisons among New York's hospitals, they knew in advance that the results of such analyses based on UFR data would have been unreliable. They would not have provided a defensible basis for rate setting.*

Ingram asked the group to remember just how far we have had to come in hospital accounting. When the UFR was first being developed there was not even a standard definition of "patient day" among New York hospitals. And when these hospitals were asked to state the basis on which they classified infants as "premature", 28 different definitions resulted. Furthermore, the level of accuracy in reporting was abysmal. Blue Cross has the capability to perform computer checks on internal validity; when the UFRs were first introduced, out of 175 hospital reports per year (all certified by accounting firms), they used to get an average of one report every two years that was free from transcribing or mathematical errors.

All in all, Ingram defends the first generation program that New York developed; it was the best that could be done. But the program would be much stronger if Medicare rates were also covered.

Gordon Cumming then addressed the committee from the perspective of one who has been involved in designing a third generation program.

In California a jurisdictional war is being waged between the Health Facilities Commission and the Department of Health over who should have the responsibility for some form of hospital rate setting. However, there seems to be agreement in principle that a broad public utility approach is essential. There also appears to be agreement that a broad range of information is needed for proper implementation. The proposals being put forward include: hospital financial data reported according to

* A new uniform chart of accounts and reporting system is currently under design in New York to upgrade the potential for comparability of UFR data.

California's new chart of accounts and uniform cost reporting system; data fully describing hospital scope of services, physician mix, service complexity and patient origin, and casemix data to be derived from hospital discharge abstracts.

Referring to Bauer's question as to whether hospital cost containment will come about via the scalpel or the meat axe, Cumming observed that it may well already be too late for the scalpel. He cited Anne Somers' "Tragedy of the Philadelphia Medical Commons," with its historic parallels to what happened to the common public land in which herdsmen used to graze their cattle.* Though all realized the danger, each individual continued to expand his herd without regard to the fact that the common grazing ground could not support more animals. Eventually, it was exhausted - and everyone lost out. Now the hospital meadows are overgrazed, health professionals and voluntary organizations too have long recognized the danger and have had many opportunities to control the situation. But they failed to act, and now the government must build the fences and create grazing limits for health care providers.

The only way this can be done is to look at total health care expenditures and put a ceiling on them to provide limits within which specific allocation decisions can be made. Heinrich Blum, of the School of Public Health in Berkeley, recommends that an 8 percent limit be set for the amount of G.N.P. devoted to health care, with 2 percent of that allocated for preventive measures. This type of approach became inevitable when the voluntary associations failed to take leadership. "Now the issue becomes one of good services for good value - or how to get the best bang for the buck out of the hospital industry."

* This concept was first popularized by Garrett Hardin, "The Tragedy of the Commons," Science, Volume 162, December 13, 1968.

In general, Cumming supported the recommendations of the Harvard project - its suggestion for cutting out redundant and duplicative reporting by various regulatory agencies are good ones. However, the fashion in which the data are analyzed becomes crucial. We need to look at the aggregate budgets of hospitals for a given area, state or region in relation to the population served, rather than merely examining each institution's situation in isolation. Such a mechanism for aggregating all hospital operating budgets and plans for capital expansion in given areas should help policymakers arrive at a total figure for what to spend, for what types of services, and where. Looking at individual hospital budgets gives only a limited view; it does not address the need to end duplicative, overlapping and uncoordinated programs. California spent \$4 billion on hospital services last year - but nobody knows what the \$4 billion bought.

In short, hospital rate setting must not let itself get locked in by the accountants' view of necessary information on individual budgets and rates:

We are talking about reimbursement controls as just one aspect of what should be a coordinated regulatory effort within some finite limits on total spending. Stuart Altman was wise to try for a ceiling on hospital expenditures - though he couldn't ever have gotten away with it for physicians....But regulation has to take place in the framework of sound planning. We have to have control of standards, via licensing and certification, determination of the right to provide hospital services through certificate of need and decertification and cost containment via budget and rate reviews. It's only a question of time before this becomes recognized, even though P.L. 93-641 doesn't take it quite that far. The project's recommendations are fine as far as they go, but they should have focused on information for hospital regulation, not just rate setting, because as the scope of control widens, the information necessary to implement controls must expand accordingly.

In regard to the two models for prospective rate setting that the Harvard contract must address, Cumming strongly opposed Model 1 - the Medicare model. He does not feel that the federal government is patient enough to deal with the complex differences among the fifty states, and prefers the Model 2 structure of state administration. The federal

government should retain a strong role in setting out the rules, and the states should not be given too much discretion because they simply can't manage it - even in California, which has a strong state government. "But the federal government has to act more responsibly as a payer - it can't expect to keep shifting Medicare and Medicaid patient shortfalls to the private patients, ripping them off as at present."

Dowling, the moderator, agreed with Cumming's thesis that we should really be talking about regulation in the broad scope, not just rate setting. Pursued as an isolated phenomenon, rate setting won't be effective in controlling hospital cost increases; it must be tied to licensure, planning and utilization reviews.

Weiner concurred that the fundamental issue was to obtain and use the kinds of data needed to regulate the health care industry as well as to set rates. He pointed out, however, that the task should be to identify data that are salient for particular administrative purposes and which are at the same time possible to collect and use in an economical fashion. "We must keep the notion of an ideal data set separate and distinct from a data set that is administratively feasible for a given program at a given point in time." He noted that Massachusetts began with the New York first generation rate setting model, just trying to keep hospital per diem rate increases at the level of inflation. The program has since progressed towards the second generation model, and is now moving on to try to get a handle on volume changes. Eventually, the commission hopes to develop data to show the influence of casemix on hospital costs. Again, however, Weiner stressed that it was absolutely essential to draw the line on what kind of information we can actually handle. A wide range of desirable data and sophisticated analyses may have to be sacrificed in the interest of administrative practicality.

Manzano observed that programs have a tendency to serve and perpetuate themselves, and that questions of "administrative feasibility" then become the operative factors that determine what information becomes

available. This constrains the quest for information that tells what's really happening in the system--in this case, what hospitals are really doing and what is happening in the hospital economy. The previously cited case of the New York rate setting system provides an example of the relation of the available information to the choice of rate setting method. The ready accessibility of certain types of data and the difficulties of securing other types may come to shape or constrict program goals and procedures, rather than the program defining its own information needs as we would like to think happens.

Cumming stressed that regulation involves intricate decisions, and they demand a tremendous range of data. We may well end up with more than any one agency can handle administratively; this opens up the whole question of data management.

Weiner reminded the group that the system we end up with is a function of the political environment, not long term goals for rationalizing the system. Fiscal crises experienced by governments and third party payers inspired the move to rate setting; the approaches taken to containing costs are the direct result. Eventually we need to move to a broader objective that will call for a more rational and reasonable allocation of total health care resources. The information needs will change according to the perception of need to broaden the objectives. Forand concurred: "The priority consideration is that we are going broke by spending too much money on medical care; we must begin to attack overall costs first." To stop the spiral, he urged that a macro-lid be put on cost increases.

McCann observed that some of the stated objectives for rate setting are so broad that rate setters are unable to come to grips with them. Although the goal may be "the efficient provision of health care services," the immediate political and economic imperative to control costs provides an actual program direction reality where rate setters must become reactors, not innovators.

Tresnowski pointed out that if the overall policy objective is to contain spiraling expenditures for hospital care, rate setting is probably the least effective tool. To control excesses we must get a handle on a whole range of factors such as inappropriate admissions, lengths of stay, excess beds, duplicative services, etc. Any data system recommendations should stem from delineated objectives, and he wished the background materials to the meeting had stated them. In their absence he proposed his own - namely, that rate setting programs should be able to:

- assure the public that the costs of care in each hospital are reasonable; and
- within these limits of reasonableness, assure each institution that its full financial requirements will be met in the rate, and that all payers will pay their fair share.

The data system should be constructed to serve these objectives.

Ingram observed that Tresnowski's list had omitted the role of the physician as the prime generator of medical expenditures. Lacking possibilities of any control there, realistically, the best one can do is to try to contain the rate of cost increases, quite apart from judgments on "reasonableness". "None of us talks about cutting costs! We just have to continue applying countervailing pressure to keep patients out of hospitals, and when in, to control their lengths of stay. I agree that strictures on the per diem rate are not the major means to control cost increases."

Forand believes that rate setters can be bolder in attempting to control physician generated hospital spending. He noted that Rhode Island's average length of stay (diagnosis and age adjusted) was two days longer than was the profile in Western hospitals, but that in one year, through concurrent reviews tied to the budget review process, the program reduced it by eight tenths of a day. Also, Rhode Island Hospital, the state's medical center, was persuaded to move to open staff privileges. "We can't forever avoid confrontation with the doctors." Cumming concurred, observing that the fee-for-service system was the heart of the problem.

"As long as we have fee-for-service, we will just be like Indians frantically circling the settlers, with no power to stop them."

Dowling brought the discussion back to the question of information needed for hospital rate setting. He agreed that we need to look beyond per diem cost or operating efficiency if we are ever to come to grips with the problem of spiraling expenditures. Eventually we must move on to examine the appropriateness of care in relation to its costs; this calls for a broader and broader range of data. Since controlling price increases is a more limited objective, perhaps we should make the start there. On the other hand, a case can be made for designing a more comprehensive approach at the outset.

Two approaches are possible in trying to control hospital costs - one is to focus primarily on the input side, the other is to look more directly at outputs. Currently, most rate setting programs look primarily at the inputs. As a result, they rely heavily on cost reports or some modification of them. As the programs evolve, increasingly detailed data is sought:

Once the reviewers have obtained the basic cost data, they decide they need more detail, and begin to ask the hospitals to relate their inputs to departments to permit comparisons between hospitals. The next stage is to recognize that total costs are not enough. They then begin to look at cost per unit of service in different cost centers. This requires still more data. Then the rate setter realizes that since costs are primarily a function of one particular type of input - manhours - he needs better manhour data by department or cost center. Then, since costs are manhours times the compensation for these manhours, he begins to seek detailed data on salary levels and fringe benefits to relate to the unit costs.

Dowling noted that most rate setting programs have already moved down this corridor, from total cost data, to departmental costs, to manhours and salary data. Perhaps it's time to shift our emphasis to the output side.

We have already begun to look somewhat at admissions and patient days, length of stay, and the relationship between the two. In some cases, as

in the Rhode Island effort, we have even begun to look at casemix, but most of these efforts are extremely crude. In order to move to an output assessment, we need better data on not only the quality but the mix of outputs to enable us to say in regard to an individual hospital, "given your particular case mix and the rate of inflation in your area, your costs are reasonable--or not."

By moving to this type of an output assessment of the ultimate reasonableness of a hospital's costs, the regulator will not have to meddle in the internal affairs of the hospital. In other words, if he can look at the hospital's casemix and level of input prices and say, "your costs are unreasonable in comparison to other hospitals treating a similar casemix," then it would be left to that hospital to look at why its costs were out of line, and to make the necessary corrections. The rate setter would not have to hear about the hospital's lab and X-ray intensity, or departmental productivity, or the RN/LPN mix, or any other input variables. All that would be necessary would be for him to have a precise measure of the kinds of patients treated in the individual hospital, and the salary and wage scales and inflation rates in its area. He could then assess whether that hospital's costs were higher than other hospitals that were treating the same complexity or diagnostic composition or severity of casemix. Productivity problems, influencing the doctors in regard to excessive lab and X-ray tests, and other service type input decisions would be left entirely to hospital management.

Another advantage of this approach, Dowling stated, would be that it takes the rate setter out of the arena of having to define an appropriate length of stay or making implicit or explicit judgments about what services are necessary or unnecessary. All such quality of care decisions would be left to PSROs, planners and standard setters. All the rate setter would have to do is to determine whether or not the costs of that hospital were reasonable according to their criteria; someone else could set out the public policy implications and decide whether they wanted to pay the additional

dollars to maintain that service. On the other hand, if the state and Blue Cross rate setters keep going down the road of basing decisions on more and more input data, they will inevitably become more and more heavily involved in hospitals' internal management.

Dowling related a conversation on the subject of regulation he had recently had with a friend on the Federal Power Commission. They agreed that if the decision is made to regulate, good data are essential. In particular, his friend commented, you can never do a good job until your data can measure the output of the regulated firms and industry, and its quality. He pointed out that this is where the FPC has it all over hospital regulators - because one kilowatt hour always and exactly corresponds to any other kilowatt hour. In hospitals with patient casemix differences, intensity of care differences, skill differences and other important variables, it is very difficult to measure the output - no two "patient days" will ever be exactly alike.

Despite these inherent difficulties, Dowling urged that we push on to find better output measures so that regulators can move to where they can determine reasonableness of cost according to each hospital's casemix and general changes in the movement of input prices.

McCann amplified the difficulties entailed in defining true hospital outputs. Rate setters, like everybody else, have had to adopt surrogates such as "patient days" and "clinic visits" in lieu of anything better. Weiner felt that the input/output distinction was not as clear as Dowling had indicated. A lot more will have to be done to get output measures that will be feasible in rate setting. Cumming said, "One must learn to live with one pot of money for the community's total health services - not fiddle with individual hospitals while Rome burns." Weiner suggested the parallel with the Federal Reserve System model, where the Board decides how many dollars are available and lets the banks fight it out from there.

In light of all the foregoing discussion, Bauer then asked that the committee specifically review the project's recommendation, which reads:

- Because the nature of the information perceived to be required for rate setting is changing rapidly, and is likely to continue to change in the future, any information system and guidelines the federal government may issue to affect state and Blue Cross data collection and use under Model 1 or 2 should be selected in light of emerging rate setting objectives.
- Experimentation with the use of new information about hospital casemix and product, and with new methodologies for their analysis should be encouraged. Conversely, the necessity for collection of the present mass of detail on present cost reports should be reexamined should national health insurance legislation be enacted.

She explained that the project had intentionally avoided spelling out objectives of rate setting: Congress and/or state legislators will in fact decide those objectives, not us. The recommendation on need to experiment with the use of casemix and product data and reexamine the cost report was very much in line with Dowlings observations.

The committee agreed with these recommendations, but pointed out that for the foreseeable future cost reports would still have to be retained at the present level of detail, to allow allocation of costs among different third party payers. Collection of the data they contain for use by rate setters does not impose any great additional burden on hospitals.

Bauer then brought up another, related project recommendation:

- The federal government should provide mechanisms whereby state and Blue Cross rate setting mechanisms can share their experiences with the use of new types of data and should provide funds for development and evaluation.

Forand and Weiner strongly endorsed this proposal. They both feel that state rate setting bodies are continually in danger of devoting their very limited resources to reinventing the wheel, duplicating development efforts which, quite unbeknownst to them, are already underway elsewhere.

The Concept of a Minimum Hospital Cost Data Set

As the final agenda item of the morning session, Bauer asked the committee to address a major recommendation of the project - the creation of a minimum hospital cost data set, and she summarized the thinking that led to its formulation.

We should remember that data must be collected and analyzed to serve several different functions related to hospital rate setting. At a minimum they must inform the establishment of the rates themselves (or budget approvals), the processes of hearings and appeals, and the monitoring of the rate setting program's results. Better information on hospital costs is needed at every level of government, whether the Model 1 or Model 2 configuration becomes adopted. Legislators, government officials and third party payers badly need it to help them formulate policies relating to health care financing and distribution. Furthermore, other regulatory agencies, particularly those with certificate of need responsibilities, also need regular access to information on hospital costs to be able to assess the economic impact of alternative courses of action in regard to hospital expansions. At the present time, despite the masses of data hospitals report to third party payers and to rate setting bodies, it is not possible to put together information to serve the needs of program evaluators, planning agencies or policy makers, except on an ad hoc basis through laborious special studies.

In part, this is due to the poor quality of the data reported, a problem that cannot be solved in the absence of some universally accepted uniform reporting system based on a standard chart of accounts, standard definitions and standard reporting conventions. In part it is occasioned by the very vastness of the data collected, out of which key items are rarely brought together in a timely, systematic fashion to serve these potential users. The project's recommendations for a small and uniform hospital cost data set (UHCDS) are put forward as a means to alleviate this unfortunate situation.

Rate setting bodies and third party payers will always require a far greater level of detail to perform their functions than will other users of the proposed UHCDS. Therefore, under either Model 1 or 2, those who design the rate setting methodology at either the federal or state levels would continue to specify the full range of data they need to implement it, just as the Medicare program does now for its cost based reimbursement method and as the rate setting states now do to administer their programs. However, we may assume that under either type of future rate setting model that might be associated with Medicare or national health insurance, SSA or some other DHEW component would be made responsible for monitoring the effects of rate setting programs, wherever they were administered. Therefore, to provide rate setting program accountability under either the Model 1 or Model 2 configuration, and to permit timely analysis of hospital costs related to their product, we propose that a specially constructed minimum set of data should be reported to the Secretary of DHEW on an annual basis. The UHCDS would also be used to supply the information requested by Congress and the executive branch. For the most part, it would be a subset of the full data hospitals routinely report to rate setters and/or third party payers or other external reviewers, not a duplication.

Key variables that might be included in the UHCDS might relate to: hospital governance; revenues; operating and capital expenditures; patient care resources and programs; education programs; physician mix; burden of illness indicators; and volumes of services provided.

Because the federal government would be the prime user of the set, the project recommends that DHEW take prime responsibility for its development. However, the UHCDS should also serve the needs of many governmental and non-governmental users at various geopolitical levels, including state level policy makers, hospitals and hospital associations, federal, state and local planning agencies and Blue Cross and commercial insurance plans. Therefore, although definition of the minimum set would be a federal responsibility, agreement on state or local additions to it to meet local needs could be specified by

users at the state and regional level together with intermediaries under Model 1, or state rate setting programs under Model 2.

Finally, if the UHCDS is to serve the needs of multiple users at the federal level, their special needs for cost information should be ascertained before the data set is designed. DHEW's Health Data Policy Committee and the U.S. National Committee for Vital and Health Statistics already provide a structure to guide the development of such new data sets.

The project does not attempt to specify the data items to be included in a UHCDS; this will admittedly be a herculean task. However, it outlines some criteria to guide the development of such a set.

- To avoid wasted effort in data collection and processing, and to allow timely analysis, the items for the UHCDS should be highly selective; they should be chosen primarily to supply information to support defined national policy and rate setting program needs and objectives;
- To avoid duplication, to the extent feasible, the UHCDS should be constructed from items spun off from ongoing reporting systems;
- To meet economically the needs of many potential users for the types of data collected, the data base should be maintained and reported in a modular format that permits hierarchical aggregation for special purpose reports.

Other recommendations the project makes on this topic seem particularly germane in light of Dowling's comments in the first part of this session on the use of hospital output measures. The project suggests that as other types of external review agencies develop indicators of the appropriateness of patient management, of hospital services related to community need, and of quality, these be systematically related to hospital cost information. The comments made by Cumming on the need to 'get the most bang for the hospital buck' seem pertinent to the more tediously worded project recommendation that reads as follows:

- If national objectives are to improve the cost effectiveness of hospital expenditures as well as to contain rates of hospital unit price increase, monitoring should include analyses of population based data that will show trends in national, state, and local area expenditures related to utilization, and, as they are developed, relationships of these factors to indicators of health status and patient outcomes.

Asked to explain her emphasis on data for monitoring, Bauer noted that the people who are trying to evaluate the impact of various rate setting programs under the current SSA contracts are encountering tremendous difficulties because of fundamental gaps in the data available as well as weaknesses in the data quality. The purpose of routine monitoring is to determine whether the purchaser of hospital services, be it the federal government or the state government, is acting as a prudent buyer. Tresnowski demurred. As the Medicare program defines it, the "prudent buyer" concept refers only to purchases of hospital inputs. Bauer said she was using the term generically, referring to the purchaser who gets the best value for the dollar spent.

SSA can't perform timely analyses from the total base of hospital cost data it currently derives from the Medicare cost reports that come to it for program administration. We are proposing the UHCDS to create a manageable mechanism for looking at the results of rate setting activities at the state or fiscal intermediary area level. Of course it will be impossible to specify the individual data items until the objectives of the rate setting programs are more clearly specified than at present. It will be extremely difficult to keep the number of items in a UHCDS small - everyone will want to add more and more to it.

McCann felt that obtaining uniformity of the items in a set would be the biggest problem. How much comparability do we have to get? Most of the committee members agreed that you cannot have a uniform cost data set without uniform cost reporting.

Manzano felt we ought to address the question of data utility - why is the mass of data already available needed, and how will it be used? Dowling reiterated Bauer's earlier statement that if a UHCDS is to serve the needs of multiple users, their specific needs must be defined before the data set is specified.

Cumming felt that the project did not go far enough in discussing the fundamental objectives of a new hospital reimbursement system: "We must

focus on the big target: how much are we paying for hospital care, and what are we getting in return? And we must see that nobody gets cheated. Any monitoring system should reveal that, too."

Weiner stated that in his opinion it was important to focus first on a data set to monitor the rate setting function; it would only muddy the water to try and meet the needs of multiple users at the time that the data set was being specified.

The discussion then focused on the necessity for uniform accounting with full definitions of terms and follow-up auditing if rate setters and outside monitoring agencies were ever to be able to secure reliable data. (See recommendations on pages 24-25 of the final report.) Then the committee adjourned for lunch, during which Dr. Clifton R. Gaus, Director of SSA's Division of Health Insurance Studies of the Office of Research and Statistics, presented the talk reported in the following pages.

LUNCHEON SESSION - MAY 5TH

How SSA is Preparing for New Responsibilities Under Present and Proposed Federal Legislation.

Noting the current lack of activity in Washington on the national health insurance front, Dr. Gaus stated that he would describe the kinds of long range activities now underway at the Office of Research and Statistics to prepare for future developments. He does not foresee any imminent overall change in hospital reimbursement. He felt this was fortunate, as it will allow more time to evaluate existing experience and to define methodology before SSA is required to implement a new system.

ORS is trying to be as helpful as possible in furnishing information needed to support policy and administrative decisions in the executive branch. This means undertaking a variety of studies and evaluation projects requiring the collection and analysis of many types of data.

One activity in progress for the last three years has been an effort to evaluate the impact of the first generation of prospective reimbursement systems. Measuring the impact of a particular reimbursement system on institutions is a very complex business. It has been difficult to determine what change, if any, occurred. In fact, the Economic Stabilization Program (ESP) seems to have had more impact on the behavior of health care institutions than has any other type of program. This was probably because ESP controlled prices of labor and materials, inputs that hospitals themselves have little power to control. If the long run objective is to change the behavior of the hospitals in ways that will make them more efficient and effective, it appears the shortrun objectives of rate setting - such as those of minimizing outlays by third party payers - may not work.

Gaus outlined four major types of activities at the Office of Research and Statistics designed to supply information that both DHEW and

legislators need. First, ORS is currently working on the development of a detailed uniform accounting and reporting system as required under section 1533 (d) of the National Health Planning Resources and Development Act. Gaus feels that this sets the stage for some kind of ongoing reporting to the Secretary of DHEW of a minimum basic hospital data set. ORS is attempting to identify better measures for hospital services such as radiology procedures, laboratory tests, etc. They hope to report to Congress soon on at least the uniform accounting system.

A second activity involves the ORS/BHI development, with the A.H.A., of the uniform hospital billing form. The industry's objective in promoting a uniform billing form is simplification and efficiency at the hospital level. Gaus believes that there are many potential payoffs at the national level too, such as in obtaining uniformity in the reporting of hospital revenues.

The third major ORS activity concerns analysis of hospital utilization. For ten years Medicare has been processing diagnostic and length of stay data for one fifth of all Medicare admissions to hospitals. These data have now been linked to the characteristics of Medicare patients through the central files in Washington and Baltimore. As a result a large and comprehensive data set has been developed. It has been analyzed for each PSRO area. The analyses show variables such as the average length of stay by diagnosis for the PSRO area as a whole, as well as for each individual hospital within the PSRO area. It displays surgical, preoperative, and postoperative days; cost per admission and per case; and day of admission, and permits review of variations in day of admission, the rates of surgery for a geographic area, etc. On the basis of these data, ORS has been able to point out enormous geographic disparities in the length of stay for similar diagnoses. Gaus feels that this type of disclosure will undoubtedly have a significant impact on how PSROs monitor utilization at the hospital level. The data ORS recently released were for the year just prior to

PSRO implementation. This provides a base line. Later, analyses will be released to show experience in the first year of PSRO operation, to permit comparisons of hospital utilization patterns before and after PSRO interaction.

The fourth area of ORS activity is its work with the Health Resources Administration to develop a data package derived from Medicare statistics that could be useful to planners. He noted that the two groups had had a little initial practice at this cooperative relationship as ORS developed analyses of medical marketplaces to assist HRA in the determination of boundaries for HSAs. Specifically, they analyzed the travel patterns of Medicare patients from their place of residence to the hospital where they obtained care, using patient origin data for the individual hospitals derived from claim forms. On the basis of this analysis, it seemed that in some areas of the country, such as the Washington metropolitan area, the HSA should cover both the city and the suburbs in neighboring states and counties, since the patients from these outlying areas come to the city for care. Unfortunately, the recommendation to construct a larger metropolitan area HSA was rejected on political grounds. In the long run, however, Gaus expects that such patient origin data, made available to HSAs, will be used by them and will allow important strides to be made in improving the nature of planning.

Specifically addressing the problems encountered with hospital cost data, Gaus noted the Office of Research and Statistics and the related units of DHEW cannot really make policy, manage the Medicare program, or advise Congress in the absence of good hospital cost data. The two weakest areas in the Medicare statistical system are the hospital cost and physician economic data. Even though Medicare has had a uniform cost report for the last ten years, the Washington and Baltimore central offices have never put the data together in any form that is useful to anyone. There are literally rooms and rooms and rooms full of cost reports in Baltimore that are still waiting to be abstracted and computerized. During the period of the

Economic Stabilization Program, the Cost of Living Council ran into serious difficulty because nowhere in the federal government could they find economic data on the hospital industry. As a result, in order to develop their control mechanisms, they had to go to the industry itself to obtain basic information on hospital costs. Lately, however, ORS has made progress in analyzing a sample of cost reports, using an outside contractor for abstracting and processing. While still subject to the quality problems of cost report data noted in the background materials for this meeting, this new sample represents the only national data available.

ORS is using this newly processed cost report data to supply analyses to the Senate Finance Committee on the proposed Talmadge amendments, where the concept of an appropriate unit cost per stated output is beginning to be addressed. In the Talmadge bill, which would tell the hospital what it will be paid for a given output, and let it decide how to organize and manage itself to live within that expected revenue, the concept of "accountability output" rather than "input" is beginning to be translated into legislation. However, Gaus noted that Talmadge still tends to look just at the hotel services component of the hospital function, and still attempts to group hospitals largely according to size, which many of the theoreticians say has no reliable relationship to hospital costs. Gaus also noted that there has been a serious effort on the Senate side as well as in the Office of Research and Statistics to grapple with the problem of defining some sort of uniform outputs of hospital care such as case or diagnosis, and establishing the amount at which to set prospective rates for such components. However, there is much discomfort about the bad data on which they must base such decisions. They have identified two and threefold variations in these component costs that they feel cannot possibly be fully attributable to inefficiency. In other words, after adjusting for the bad data and for some inefficiency, there still seem to be other factors, not yet identified, that explain cost variations among hospitals.

Finally Gaus briefly reviewed some of the work on physician

reimbursement now underway at ORS. In this area, the attempts as well as the failures are well known. Data on the services provided, and the incomes and office expenses of physicians are almost nonexistent. Surveys attempting to obtain such information usually suffer from enormous non-response rates. ORS is now undertaking a major effort to make sense of much of the data on physician services collected by carriers. There are tremendous variations in definitions of services and procedures as well as in fees, but they are trying to develop a broader data base. They must primarily focus on the fees individual physicians charge to Medicare on their claim forms; they have no data on what fees those physicians charge to other payers. At this point, negotiations are underway to attempt to get Blue Shield to cooperate in sharing data. Prevailing fees paid to physicians across the country have been collected for Medicare by the Bureau of Health Insurance. Preliminary analysis suggests that the Medicare program may be paying twice as high a fee for the same service in one geographic area as in another - even within the same city. These discrepancies are unexplainable by any simple model.

Now, under an outside contract, ORS is undertaking its own survey, using a sample of 2000 practicing physicians. It has been getting a fairly good initial response rate, over 70 percent. Similarly, under contract with a large accounting firm, ORS is also attempting to obtain data describing the contractual arrangements of hospital based physicians, the first such national study.

In summary, these efforts to document and analyze aspects of physician and hospital costs represent some of the long term activities undertaken by ORS to begin to produce information needed for policy decisions.

AFTERNOON SESSION - MAY 5TH

Organizational Obstacles to Securing Needed Information

Gordon Cumming, the moderator for the session, introduced Diane Rowland, Associate at the Harvard Center for Community Health and Medical Care, who has been working full time on the project. Rowland explained that the session would focus on some of the many organizational factors that stand in the way of making the best use of rate setting data (see pages 40-41 of the final report). She set the stage for the presentations to follow by reviewing the nature of some of these obstacles.

As people in state agencies charged with rate setting responsibilities know only too well, legislators often enact regulatory laws without appropriating adequate funds with which to perform mandated functions. Whatever the scope and quality of rate setting data, unless the staff support is of sufficient size and calibre to analyze and use such data effectively, the expense and effort of collection is fruitless. Referring to the morning's discussions, with Cumming's exhortation that we go beyond analysis of individual hospital data to look at the aggregate picture of hospital expenditures and resource allocation by geographic areas, she observed that the kind of staff people capable of such analyses are difficult to find. It is hard enough to secure the resources to do analyses of individual institutions. Furthermore, the low rate of compensation that state rate setting agencies can offer to analysts frequently makes these agencies training grounds for hospitals. The analysts soon leave the state armed with knowledge about the types of hospital analyses that rate setters consider important. Finally, if state rate setters are too tough on local hospitals, political pressure can be applied to reorganize the regulatory function or cut appropriations, thus further exacerbating their staffing problems, and leaving the rate setting agency without the resources necessary to adequately fulfill its responsibilities.

Besides these actual and potential funding constraints, state rate

setters seeking to employ staff qualified to analyze their data face a whole other set of formidable obstacles in the form of state personnel system rules and regulations that can be exceedingly rigid and restrictive.

A second, very different obstacle to realizing the potential of collected data lies in the failure of some rate setting bodies to feed back their analyses to the hospitals. In particular, where the rate setting program's objective is to motivate hospitals to increase their operating efficiency, it would seem important to show the individual hospital manager the particular centers where his costs compare favorably or unfavorably with other hospitals, and in what respects performance seems out of line, e.g., occupancy, manpower/patient ratios, etc. Of course, such comparative analyses are only valid if they are made among hospitals of truly comparable characteristics. Some programs do furnish such analytic reports to hospital trustees and managers, and they are said to be useful for getting the medical staff to appreciate the need for better internal controls. The project recommends that this practice be extended.

A third, more pervasive type of obstacle lies in inadequate communication leading to duplications of agency data collection, use of differing definitions and categories that prevent integrated analyses, and other missed opportunities for economy and synergism in the efforts of rate setting, certificate of need, licensing and planning agencies. Focusing on the very limited resources available for data collection and analysis, the project makes several recommendations to help overcome such handicaps to effective regulation.

Finally, questions of confidentiality create still other organizational obstacles to data sharing. One of the project's working papers explored in some depth the question of legal access to PSRO data by rate setting agencies.* Patient privacy is not at issue, since rate setters

* See Alan Strasser, Disclosure of PSRO Information to Hospital Rate Setting Bodies: A Legal Analysis, Harvard Center for Community Health and Medical Care Series R-45-1, Boston, January 1976.

need only aggregated data; yet access by rate setters to PSRO data does not seem likely without substantial effort. Although most rate setting bodies have statutory power to collect whatever data they need, as casemix profiles become routinely desired by advanced generation programs, it would be the height of extravagance to engage in a parallel collection effort when the minimum data set has already been collected by the local PSRO.

Having presented this general background to the session, Rowland gave the floor to Bernard Forand, Executive Director of the Connecticut Commission on Hospitals and Health Care. Previously, from 1973 to 1975, he represented the Rhode Island Office of the Budget in that state's hospital budget reviews and negotiations, conducted under the auspices of Rhode Island Blue Cross.

Forand said that his talk would be based on his recent experiences in Connecticut, his two years in Rhode Island, and what colleagues in other state rate setting bodies have told him.

Given the existing constraints, there is almost no way to recruit good people into state government or retain good people if you get them. It often takes three to six months to actually get a new person on the state payroll. The personnel office usually wants to classify the person you want at a lower grade level than you think he deserves; by the time you've got a suitable level position approved, the person you approved it for has tired of waiting and taken another job. Then, assuming that you can eventually recruit someone you want and actually hire him, the lack of career ladders in state government means that even the mediocre people eventually leave. "It's just a fact of life that without recognition and promotion, good people will leave state government."

The dead wood, however, stay on. Once people are entrenched in government jobs it is extremely difficult to get rid of them, no matter how low their competency. Firing requires extensive documentation and strong perseverance in withstanding the union. However, the rate setting executive in New Jersey did actually remove two staff people recently, which

shows it can be done. Another story from New Jersey illustrates other civil service problems, however. The ten professional-level people that comprise the Department of Health's health planning staff, presently on temporary status, currently face a written civil service "planning" exam. The questions derive strictly from general planning theory, allowing practitioners no opportunity to display their well developed skills or to demonstrate their competence for filling the particular jobs they occupy. All ten people might very well fail these exams, and wipe out the Department's entire certificate of need and planning staff.

Addressing the project's suggestions for improving the analytic capability of rate setters at the state level, assuming a Model 2 configuration, Forand believes that the first and most important action the rate setting executive can take is to convince the appropriating body and state budget office that appropriate investment in good staff will save the state money. You have to be able to show them that "by spending \$200,000 on staff, I'll save you \$ 1 million on state expenditures."

Forand endorsed the concept of state agency and Blue Cross partnerships as a means of solving the personnel question. In Rhode Island the Blue Cross plan and the State Budget Office have a good working alliance. The state's power combined with Blue Cross reimbursement expertise, and the plan's freedom to hire good analysts at appropriate salary levels and without personnel system hassles makes it possible to conduct an effective hospital budget review program.* He also endorsed the project recommendation for technical assistance from the federal government to state rate setting bodies. Use of the Intergovernmental Personnel Act (IPA) is one way to attract professionals - he himself went to Rhode Island under such an arrangement. As an extension of this concept,

* See also the project working paper by Randall Smith, Living with Civil Service: The Massachusetts Experience, Harvard Center for Community Health and Medical Care Report Series R-45-4, Boston, March 1976.

the federal government might consider direct training programs for state rate setting staffs. Short of this, executives should try to obtain special classification for hospital budget analysts, at a salary level sufficiently high to attract good people. Another way to cope is to recruit good skilled people on a temporary basis. States like Rhode Island and Massachusetts are fortunate in having universities which attract both graduate students who can provide assistance themselves on special projects and also the spouses and friends of such students, often possessing special competencies, who are happy to take short term staff assignments.

Forand approved strongly the project recommendation that rate setting agencies, PSROs and other utilization peer review bodies forge working links to enable rate setters to receive hospital casemix profiles and indicators of the appropriateness of patient length of stay and patient management. He is at present actively working with the Connecticut PRSOs to develop ways to share information. It won't be easy, but it is not necessarily easy to get cooperation among the regular agencies of state government either. "In general," he observed, "the main objective should be to get planning, utilization review and rate setting people to work together at controlling health care costs. But if all else fails, a macro-approach must be taken - an X percentage increase on health expenditures for an area, and that's it!"

The moderator then gave the floor to Allen Manzano, vice president of the American Hospital Association, to present the hospital viewpoint on some of these issues.

Manzano stressed at the outset, and throughout his presentation, that hospitals are very tired of being second-guessed by regulators. All they ask is to be informed of the rules of the game before they make their spending commitments, rather than having reimbursement disallowed after the fact. Not only do they suffer from retroactive decisions from utilization review, but even their purchases of equipment and supplies may be disallowed

months after they are made as a result of reviewers' interpretations of the prudent buyer concept that are quite unpredictable. In short, by furnishing detailed reports to external reviewers, the hospital puts itself at risk for how those reviewers will use and interpret the data.

An ideal situation would be if the hospital could know what the public expected it to produce, then hold it accountable for the economical use of resources to yield those end products. Dowling's suggestion for a rate setting approach that would be output instead of input oriented is useful and welcome. The premise that hospital costs have been rising as a result of operating inefficiencies was always weak; there is really not much money to be saved by all the attention that is being paid to input costs. The real point is that the nature of the product that hospitals sell keeps changing. After allowing for inflation, the cost of producing a given type of service at the 1970 level may not have increased at all. The corresponding service in 1976 is different in kind; rising costs merely reflect the different nature and complexity of the inputs required to produce it. These facts have been poorly explained to the public.

The types of information rate setters need really depends on where controls are going to be put. If total hospital revenues are to be controlled, the hospital's prime concern is that that level of revenue is sufficient to meet its financial requirements. But hospitals should not be asked to be the vehicle for passing on costs to self-pay patients when the federal government and the other third party payers do not reimburse their fair share of the expense incurred in the care of their own beneficiaries.

The real question is how much of the total pie the public is willing to spend on health care. We now make the mistake of looking only at the health portion instead of thinking about redistributing the pieces of the entire pie. The public can't expect hospitals to keep adding additional services and expect them to be paid for out of existing funds. We need to look at new technology and services and decide how much we are

willing to pay in additional expenses to buy them, and where they should be placed.

Hospitals are conditioned to give enormous amounts of data to external reviewers on a routine reporting basis - far more than is customary in other regulated industries. They must meet constant demands from licensing and certification bodies, third party payers, planners, and utilization reviewers as well as rate review bodies. At a minimum, hospitals would like to see some reporting issues settled once and for all; they are continually barraged by demands for ever more elaborate reports, compliance with new report forms, and now, changes in their accounting. If the external reviewers' needs are indeed legitimate, at the least they should be carefully explained.

Referring to the project's recommendation that rate setting data collection and analytic reports should be designed to provide hospital management and trustees with useful information for internal control purposes, Manzano believes that it is unlikely that hospitals will get any benefit from the data they submit unless rate setters' objectives are clearly specified. For the most part, hospital managers need finer levels of detail for administering their own internal controls, and already obtain it from their own reporting systems. Furthermore, the comparative data rate setters provide is not useful because the hospitals assigned to "peer groups" are seldom truly comparable in function and product. However, reports from rate setting bodies can, as the project suggests, sometimes give the hospital and administrator a way to deal with unreasonable medical staff demands. It is sometimes convenient to be able to identify the rate bodies as villains.

In sum, it is absolutely necessary that the rate setting programs specify their objectives and make known their criteria for decisions so that hospitals can avoid being second guessed, and that the hospitals not be burdened with furnishing unnecessary data. The rate setting process could be a possible means of identifying year-to-year developments in hospital

product, which would indeed be useful to all concerned. However, it is unlikely that rate setting bodies will be able to supply hospital managers and trustees with useful information about their institutions' performance.

Addressing this final point, since it relates directly to the project's recommendation that rate setters feed back comparative performance reports to the hospitals, Bauer agreed that unless such reports are based on sound data they can serve no useful purpose to either party. Some of the more sophisticated grouping methods now being employed, combined with the required reporting of direct costs according to standard functional cost centers, do, however, permit more reliable inter-hospital cost comparisons in some programs. Thus, for the first time the individual hospital manager may be able to get some idea of how his institution compares to others on a variety of performance dimensions. To illustrate, she circulated a sample of the peer group hospital reports generated routinely by the Washington State Hospital Commission.* According to hospital administrators interviewed during the course of the project, they are finding these reports useful, particularly for pointing out to their physician staff the areas where neighboring hospitals appear to do better.** Some of them could be understood by their physician staffs, helping them to gain a better perspective on the regulatory pressures being applied to the hospital.

Dowling explained that the Washington program had gone far beyond primitive groupings of hospitals according to bed size in its identification of comparison groups, using instead a cluster analysis embracing fourteen variables. The hospital administrators really seem to like the comparative

* See the project working paper by Katharine G. Bauer, Information Available for Rate Setting by the Washington State Hospital Commission, Harvard Center for Community Health Report Series R-45-7, Boston, April 1976.

** See the project working paper by Diane Rowland, The Transition to Uniform Accounting and Reporting for Hospitals: Some Perspectives from Participants, Harvard Center for Community Health Report Series, R-45-13, Boston, April 1976.

analyses given them by the commission; they feel they now have a factual basis with which to test or back up their claims for the differences and/or similarities between their institutions and others. He stressed the point that the comparative analyses were only used by the budget reviewers to identify areas for closer questioning; those parts of the hospital's budget where no indicators were out of line were accepted without question.

Dowling then reemphasized the approach to rate setting he had put forth during the morning session. Many very difficult policy decisions will have to be made soon in health care - some by rate setters, but others by planners and other types of health care regulators. The output approach gives the rate setter the opportunity of saying to the public: this hospital is performing X, Y and Z services in a cost effective manner; second, if you are questioning the appropriateness of X, Y and Z, being offered at this hospital, I can tell you what each costs, and what you might save if they were dropped. Thus, it would not be up to the rate setter to decide whether or not the hospitals should produce these services - that type of decision would be made elsewhere. The role of the rate setter would be limited to assessing the cost impact of providing or not providing them. As an illustration, he cited studies comparing utilization of services under fee for service and organized group practice prepayment plans. The amounts spent per capita are often similar. However, the rates for certain services like tonsillectomies are frequently several times greater among the people served under fee for service than for those in organized care plans. These results point up the effect of reimbursement incentives on physician decisions. They also pose the question, who decides what to do about such a utilization difference? Dowling would like to see the rate setters say that X hospital's cost of performing tonsillectomies reflects efficient service, and let someone else say whether too few or too many such procedures are being performed there. "We mustn't ask too much of rate setters; we must begin to separate the questions of what is efficient production from whether or not we should produce the given service."

Forand questioned if we should worry about whether an activity is

efficiently conducted until we first know whether it is needed. "It seems a waste of time to assess efficiency when you might not need or want the product at all."

Weiner agreed with Dowling that the responsibility of the rate setting agency must be narrow - to determine fair price - and that others must make decisions on appropriateness. However, there must be strong linkages between rate setting and other standard setting and regulatory functions to supplement the limited scope of the rate setting function. "Identifying what services should be shut down is a political decision; the question of who will make it has not yet been resolved."

Bauer contended that rate setters' responsibilities should be much broader than just setting a fair price for whatever services any hospital chooses to provide. The rate setting agency should collect and analyze data that enable it to perform the additional function of raising hard questions about the appropriateness of services, even though, she agreed, others must answer those questions. She cited the project paper by Jennifer Robbins that urged an epidemiological approach to analysis of the population's expenditures for hospital care and of the kinds of services purchased, as a means to formulating such questions on appropriateness.* To illustrate, she referred to the huge differential in tonsillectomy rates among populations living in different parts of Vermont. When the trustees of the highest rate hospital were shown the statewide figures compared to their own standing, they queried their staff. Only a year later, this same institution became the lowest tonsillectomy rate hospital in the state.

Ingram strongly concurred. We would all be extremely surprised at how many problems can be solved by merely posing the right question to the right people. "The spotlight is perhaps the most effective tool a rate setter can have." Weiner also agreed that broader types of data analysis

* Jennifer Robbins, The Uses of Population-Based Data for Rate Setting, Harvard Center for Community Health and Medical Care Report Series R-45-5, Boston, April 1976.

leading to the posing of questions on service appropriateness are crucially important functions of rate setting bodies. Then, if someone else gives them the answers - say, that tonsillectomy rates in a given hospital are too high - they can implement that decision through differential rates.

Dowling noted that even when the data are easily available we frequently fail to make decisions on acknowledged problems. Once we have identified that there is duplication of service or an excess number of beds in a given geographic area, for example, who is going to take the heat for deciding which particular hospital or hospitals should give up its service or beds? No hospital voluntarily steps forward to say "I'll close 100 beds." Instead, formula type rate setting programs will penalize every hospital in that area, hoping that by underpaying them all, certain hospitals will be forced to trim down. "This might be called the Darwinian approach to closing down beds - using financial pressure to substitute for decisionmaking. This is a cop-out. A better approach would be to identify hospital X as performing certain services well and cost effectively, and then to pay it whatever it costs to provide these services, but to pay hospital Y, which performs those services poorly, nothing at all - directly forcing it to close those beds." However, this requires that some agency or group actually point the finger at the hospital providing unnecessary or poor services, bringing the decision out into the political arena.

McCann noted that the statistics used to make such decisions often change over time. Hospitals customarily take close-out decisions through rounds of appeals; by the time the final ruling has been made, the situation may have changed entirely - new physicians may have joined the staff, occupancy may be high, etc. However, if someone doesn't take the bull by the horns and make the hard decisions, the legislature will take over and make its own. Then regulators find themselves in a different ball game, one of reaction instead of action.

After a brief break in the session, the moderator introduced Stephen M. Weiner, Chairman of the Massachusetts Rate Setting Commission. His

presentation was geared to the project's recommendations concerning the role of information in strengthening cooperative activities among different types of regulatory agencies.

Weiner described the background of the Massachusetts Rate Setting Commission, which was formed in 1968 in a merger of preexisting hospital and nursing home rate bodies: The Rate Setting Commission is now located in the Office of the Secretary for Human Services, although the Secretary has no line responsibilities. The commission staff has had a long history of strict accounting orientation; until recently, cost information collected from hospitals served largely as a basis for cost reimbursement audits.

In 1972, the commission developed prospective rate setting for the Medicaid program, modeled on the New York formula system. As the program was developed, it became evident that even a relatively simple system necessitated looking at other types of information than those currently collected. It was necessary, for example, to construct an inflation index. (Now, many other Massachusetts agencies ask to use it.) Then, because the commission wanted to penalize hospitals with low utilization, it had to develop defensible figures for minimum occupancy levels. It went to the planning agency to get the figures. This constituted the first real linkage between planning and rate setting in the state.

The commission then discovered serious problems in the way hospitals were reporting the number of their beds. A much smaller number was being entered on the cost report than on the form submitted to the licensing agency, the Department of Public Health. The commission decided to use the licensed bed number as the base for its rate calculations, and as a result, many hospitals soon began to delicense their beds down to the number they actually use. This has greatly improved the quality of the basic data available for certificate of need and planning in Massachusetts, since the number of beds constitutes the basic denominator for hospital planning.

The Massachusetts Rate Setting Commission has in recent years come to work much more closely with the Department of Public Health on certificate of

need analysis. The CON program in Massachusetts was developed in 1972; the commission's rate setting program started two years later. Thus, many CON approved hospital projects were already underway by the time rate setting was implemented, and the institutions began to come in for rate adjustments to support their new capital expansions. Looking back to their original CON applications, the commission discovered marked discrepancies between the capital expenditures the hospital had originally estimated and the amounts they had actually spent, as reported in their rate adjustment application. Overruns were substantial, and the commission evolved with the D.P.H. a new system for reviewing project costs. Going one step further, the department then requested the rate setting staff to aid the certificate of need reviewers. Recently a large certificate of need application was turned down almost solely on the basis of the impact the proposal would have had on hospital operating rates had it been approved.

The commission staff's examinations of facility replacements show that when a new facility is approved on the grounds that it will be more efficient to operate, in the end it usually seems to work out to actually cost more. As a result, the CON reviewers look at replacement proposals to see, unit for unit, what the savings or additional costs will be. One recent application was from the Massachusetts General Hospital for a \$25 million ambulatory care center to replace its current outpatient clinics. The certificate of need agency made it a condition for the approval of the project that the hospital maintain the same unit of service operating cost (when adjusted for inflation) as the present clinics.

The Rate Setting Commission now reviews charge increases for all institutions in the state, as well as setting prospective rates for Medicaid and reviewing Blue Cross contracts. It now supplies the insurance commissioner with an advance summary of anticipated hospital charge increases to help him evaluate Blue Cross premium increase requests.

There is currently a Health Policy Group in Massachusetts state government that includes all the principal actors in health regulation and

other related activities of the Commonwealth. This group includes the Commissioners of Public Welfare, Insurance, Elder Affairs, Corrections, Public Health, Mental Health, and the Rate Setting Commission. They convene every two weeks and have found the meetings very successful in identifying areas of common interests and in airing and resolving interagency issues. The group provides a mechanism for policy coordination. It organizes task forces that pull necessary information together to make decisions on special issue areas. One recent example of the group's work was the development of a Massachusetts White Paper on Health Care Costs. Various proposals and alternatives to promote more cost effective activities in the state were run through the committee.

Weiner stated that Massachusetts was fast becoming a government by task force: all relevant actors being pulled in to discuss and act upon various major issues. One example has been in the implementation of the National Health Planning and Resources Development Act of 1974. An interagency transition team was appointed to oversee the state responsibility and to look at what other states have done. This task force reviewed HSA applications, and helped to develop criteria for the kinds of fiscal analysis necessary for the expanding HSA functions. The rate setting agency made a special contribution in this area. It also is represented on a committee considering the feasibility of developing a uniform patient discharge abstract component of the NCHS Cooperative Health Statistics System.

In short, there are a surprising number of cooperative working arrangements in the Commonwealth of Massachusetts, with an increasing degree of sensitivity to the importance of linkages among the many agencies involved in health service provision and regulation. Relations between the certificate of need and rate setting agencies are good, both at formal and informal levels.*

* For more information on the rate setting situation in Massachusetts, see the project working paper by Katharine G. Bauer, Information Available for Hospital Rate Setting in Massachusetts, Harvard Center for Community Health Report Series R-45-9, Boston, April 1976.

Wiener then specifically addressed the project's recommendations on these matters, namely that:

- officials in the upper echelons of DHEW and state government should either provide direct policy guidance or establish formal mechanisms whereby key agency heads can develop mutually reinforcing rather than contradictory approaches to common problems;
- rate setting agencies, HSAs and state level CON agencies forge working links. . .to exchange information and analyses;
- rate setting agencies, PSROs, etc., also forge working links to enable rate setters to receive hospital casemix profiles and reports on the appropriateness of patient care management;
- rate setting, planning and certification/licensure agencies share information to prevent facilities deemed inappropriate from receiving third party payment subsidization. . .

He feels that there are clear benefits to all parties in all such linkages. However, the question confronts us as to what type of structure appears to favor their development. The project fails to address this issue. State government in Massachusetts is very decentralized; there are 10 cabinet heads. Yet they have found that they can work together on health issues surprisingly well. This may be due to the particular approach and style of the present governor, who believes in the task force approach to get at problems that cut across agency lines. Also, the Governor's appointments to key positions are made on the basis of the individual's competence and philosophy of governance, rather than to discharge political debts. We need more of this in state government if the isolation of functions among fractionated agencies is to be reduced. However, the project should also recommend that formal linkages must also take place on the staff level; top-down directives to cooperate won't necessarily be implemented by the line staffs if they don't want to, especially since the turnover of top officials is so rapid and the turnover of staff so very slow, as Forand previously noted. In terms of years of service, Weiner is the senior regulator in Massachusetts, yet he

has only been in office now for four years.

One must be extremely sensitive as to how interagency connection is to be fostered. When several agency heads or staff people come together regularly to work on some one specific problem, other linkages seem to naturally develop.

Bauer agreed that the question of what governmental structure best favors the development of interagency cooperation is an important one. The project intentionally did not address it directly, however, since it seemed unlikely that any one structural model would be likely to work in all fifty states, given the unique organizational histories of each. Also, her own observations have indicated that leadership from a governor's office that demands and expects interagency cooperation is the factor most likely to produce it, whatever the particular formal organization chart of agency relationships may be. Weiner and Forand agreed in part, but felt that the question of structure cannot be entirely ignored.

Dowling stated that it is most important to have agreement on common policies at the state level, so that when an individual institution comes to the regulatory agency with a proposal, it can be asked to comment on how its own institutional goals fit those formulated as state-wide goals.

Tresnowski noted that Weiner had really been describing a planning process, in which the assumptions on where to go and what needed to be done were shared in a policy committee. He viewed it as a matrix approach to getting disparate parties together. "If one cannot get the parties to move together, at least the effort should be made to try to get them to plan together."

Weiner noted that the project's specific suggestion to rotate staff among different agencies on some regular basis was a nice idea, but really a luxury. A more practical and feasible alternative would be to provide joint seminars for the staffs of the various agencies.

McCann noted that the structure in New York allows regulators to work together "as well as the powers that be want them to" because they are all in one agency, the Department of Health. Under that type of organization, the individuals at the top can mandate and then positively reinforce attempts to coordinate the activities of the various regulatory components. Ingram observed that there was still no input of cost analysis to the planning in New York; "all they ever look at is capital cost and need, not what it will cost to run the facility in the long run."

Cumming noted that state government is continually expanding its regulatory scope. In California, for example, a single department is responsible for health regulation and Medicaid administration. For this reason, provider groups want to see economic regulation of health facilities placed in independent commissions, so that a large purchaser of services will not also be the one who sets the price. McCann observed that in many instances these conflicts of interest were created by law. The New York statute, for example, spells out interlocking roles of the Insurance Department, the Health Department and the Budget Office. Other relationships are more ad hoc, such as between the Department of Social Services and the Health Department. He emphasized the tremendous complexity of having all of these various groups work together and the delicate balance that must be achieved between purchasing power and regulation. On this somber note, the conference was closed for the day.

MORNING SESSION - May 6th

Managing the Information

Stephen Weiner, the moderator, introduced William McCann who heads New York's state rate-setting program.

McCann explained that in New York the hospitals submit two standard statewide reports annually, the Uniform Financial Report (UFR), to which Ingram referred during the previous day's session, and the Uniform Statistical Report (USR)*.

The Department of Health has the statutory authority to prescribe the contents, form, and the timing of these reports, but contracts out their management to Blue Cross which does the editing, data processing, and auditing. The reports are designed to serve several major types of purposes: reimbursement, rate setting, planning, and facility certification. The UFR provides the base for Medicare as well as Blue Cross and Medicaid reimbursement, and is subject to a single combined audit. Since the two reports serve so many types of users, they eliminate many of the burdens of duplicative reporting from the hospitals and undoubtedly result in substantial savings in data processing and management all along the line.

The Department of Health tries to keep changes in the content and form of the report to a minimum, although a major switch to a uniform accounting system, underway at the present time, may bring some immediate modifications.

The two reports are good as far as they go, but they could be much better, especially if sufficient funds were available to monitor the quality of the data submitted. Auditing of the dollars is reasonably good, but inaccurate and incomplete statistics are a

* Katharine G. Bauer, Hospital Rate Setting in New York State, op. cit., pp. 8-10 especially.

real problem. The rate-setting program is especially affected when it comes to assigning hospitals to their proper peer groupings, using the report data to do so.

To make an information system such as New York's worth pursuing, the basic data must be accurate and uniformly reported. Moreover, the scope of the data collected must be sufficient to meet the needs of the users -- but only those needs. Collection of unused data is not only expensive, it adds to the risks of inaccuracy, since hospitals have no motivation to improve the quality of data that is not being actively used. Any users requesting additions to a data set should be made to justify his request in terms of the additional cost that would be added.

The Uniform Reports in New York are public record: this is important - data collected at public expense should not become the property of any one user. McCann endorsed the project's recommendation that the sharing of data among regulatory agencies (after aggregation to protect individual patient privacy) should be mandated by statute, particularly where federal or other public funds support the data collection and processing.

Some legislators seem to think it is simple to mandate that reports be uniform. But uniformity demands decisions on and acceptance of functional classifications, and detailed standardized definitions of terms. Merely entering hospital statistics on a standard form, as with the Medicare Cost Report and the present New York UFR and USR doesn't make the reports uniform. To accomplish uniformity requires that all hospitals define the data elements the same way, and that they all follow the same reporting conventions.

One must also be careful that the reporting requirements of any system not be beyond the hospitals' capability to comply. The level of comparability in the data you want must be kept within the bounds

of practicality; if those limits are exceeded one can no longer expect to retain accuracy. Speaking as a major actor in the development and monitoring of New York's UFR and USR, McCann is continually amazed at how many people want all of this comprehensive data with no idea of how they will use it. In some cases, his Bureau intentionally eliminates "users" from the mailing list, and never hear a request to be put back on.

In closing, McCann suggested two additions to Finagle's law on information*:

- the information you need arrives too late to be used;
- the information you need keeps constantly changing.

The moderator then called for discussion.

DISCUSSION

Ingram commented that if you want truly uniform reports today the only way to do it is to go into the hospital and put the reports together yourself. There are tremendous variations in the way different hospitals report, even, so he hears, in the reporting of relative value units in Washington State.

Manzano noted that constant training and monitoring are required to produce any sort of uniformity among reports from various institutions. For its annual survey, AHA staff have to go out and verify the data they obtain and must keep constant heat on the hospitals in order to get relatively uniform data even as basic as that asked for in their survey instrument.

*See p. 2 of main report.

Given all the shortcomings of the uniform reports in New York, in Ingram's opinion the lack of uniform accounting is not the major source of difficulty. The real problem is in measuring hospital output. To make comparisons of different facilities you need to be able to compare their outputs. There is no such thing as an average patient, but there is an average weighted lab procedure; and that's where the uniform system should be developed.

Dowling reemphasized the importance of output measures, and stated that Washington State had recognized that there were real problems because they had used relative value scales designed for determining physician fees. However, while the commission performs comparison analyses of the hospitals, it does not strictly enforce its findings because it recognizes that hospitals have problems during the transition to a new accounting system. He noted that the stringency of the action taken on the basis of reports submitted is important but that Washington's uniform chart still allows hospitals considerable flexibility. In his opinion, if its report comes out on the high side in comparison to its peer hospitals, the burden of proof is on the hospital to defend itself. The uniform accounting and reporting system shifts the burden of proof from the rate setter to the hospital.

In conclusion, McCann raised an objection to the project's recommendation for wide participation in system design and revision. The recommendation read:

New accounting and reporting systems, whether at the state or federal levels, should be developed with the guidance of a technical advisory committee, whose members represent the perspectives and expertise of the major users and contributors of the data.

McCann said that he could concur with the use of a technical advisory committee, but felt that consensus decisionmaking should not be substituted for exercise of some clearly designated final authority. In the end the decisions must be made by a responsible agency head or independent commission.

Bernard Tresnowski, Senior Vice President, Federal Programs and Health Care Services, Blue Cross Association, was then introduced to discuss the question of data management from the perspective of the fiscal intermediary.

The background papers for the meeting stated that the project had not been able to resolve the question of how specific federal guidelines should be regarding the management of the cost/budget data needed for rate setting. Tresnowski believes that it would be premature to address that issue in any depth until such time as the payment methods to be used are actually determined. However, he felt that the project should come to grips with the issue of who should manage the data, at least to the extent of specifying some criteria by which to make the decision. He offered three such criteria:

- cost effectiveness - whether or not a given processor is likely to perform efficiently and economically;
- operational feasibility - whether or not the processor has the immediate capability to do the work.
- political acceptability.

Whatever organization manages the function of paying the providers, i.e., handling the detail of the payment and claims monitoring functions, should also manage the data. That meets the test of operational feasibility. In general, the tests of cost effectiveness would also be met, in most cases, by the organization that manages provider payments. The political acceptability test poses more problems - one needs only to look at the PSROs. According to either the feasibility or cost effectiveness criterion, PSROs are not the best organizations to collect and manage the kinds of data they have to use in their reviews. However, they were the only organizations that were politically acceptable to physicians. Because of the political constraints that require physician-controlled PSROs to maintain their own data, it becomes especially important to develop appropriate controls to ensure that other organizations that need PSRO-collected information can obtain access to it. Had appropriate controls been built into the original

design of the data program, many of the confidentiality and conflict of interest problems now in evidence could have been forestalled.

The manager of the data will always be secondary to those who make the policies and implement cost containment strategies. The people or organizations who make the decisions on how to influence changes in demand (utilization review), or how to affect the configuration and accessibility of supply (planning/CON/rate setting), or how to encourage efficiency of production must establish the overall framework within which the manager of the payment and/or data system operate. Both, by their nature, are support functions. The real controversy will always center on who manages the cost containment strategy, not who will manage the data base to implement that strategy - except where data is deliberately withheld from scrutiny to thwart accountability.

In any event, under either the Model 1 or Model 2 configuration we should clearly take advantage of what's already out there operating in the field, either in Blue Cross plans or existing rate setting commissions, rather than reinventing the wheel.

Cumming objected to Tresnowski's statement that the group with the biggest stake should run the system. He noted that if Title XIX had the biggest stake and ran the system, all hospitals would quickly go bankrupt. The only fair system is a fair share payment system regulated by an agency which has no stake.

Bauer asked if the committee was willing to endorse the project's recommendation that any data system supported by federal funding be available for access to any other federally funded program. In the course of the ensuing discussion, Manzano stated his personal belief that anyone should be allowed access to aggregated data. Tresnowski raised the issue of whether hospital and physician profiles should be available to any users. Ingram had no problem with the recommendation, saying that only the privacy of the patient should be protected; he saw no reason to protect the privacy of the hospital, which after all is an institution providing care for the

public. Bauer asked if the project could then assume that the recommendation had the committee's approval, and all present agreed that this assumption was correct.

Ingram also noted that whatever agency gets the responsibility for the rate setting function under Model 1 or Model 2, it is most likely that intermediaries would continue to do the processing and editing of the data.

In response to the project's recommendation that DHEW conduct extensive audits of the managers of the data for rate setting, Tresnowski noted that in the last fiscal year DHEW had conducted 652 independent audits of Blue Cross plans. These audits stem from different parts of DHEW bureaucracy.

Bauer noted that the project had been reluctant to spell out specific models for the management of data since it could be done in so many different ways in the different states. McCann concurred that there was a need to build in criteria for the selection of the managing organization - because otherwise all decisions would be made in the murky area of political acceptability.

Cumming emphasized that what we are really seeking is cost effectiveness and accountability for the public and equity for the provider - not just simple cost containment. Both the payer and the provider need assurance that the rates are set equitably. In Cumming's view, Blue Cross is more concerned for the government than for the hospitals. Government wants to use its power to shift to private patients the costs it is not willing to pay to meet its own obligations.

Manzano strongly concurred with Tresnowski's criteria for the selection of the appropriate managers for data. They are extremely important considerations. However, equity really depends on how you allocate the costs. Ingram observed, "if two of your large customers are government agencies, all you have to worry about is whether you can ever get your costs back - and if so, how!"

Moderator Cumming then closed the discussion and moved on to William Dowling's presentation.

Dowling stated that his comments on the transition to a new uniform accounting and reporting system would rely heavily on the project's excellent working paper on the subject, as well as its recommendations.* In his discussion he operates on the assumption that the decision to adopt uniform accounting has been made and a system has been designed. Thus, his remarks will focus solely on the implementation process.

In deciding how to put a new accounting and reporting system in place, the trials and tribulations that hospitals must undergo in the process must be continually borne in mind. There is no way to make the transition completely palatable, but there are some actions that can be taken to make the transition a bit easier.

The major difference between the California and Washington experience stems from the different purposes for which the data were collected and used. While the Washington hospitals were asked to use their new chart of accounts to prepare a budget for rate setting by the Washington Hospital Commission only six months after adopting their new accounting system, the California system was not designed for existing cost reimbursement or for immediate rate setting purposes. Instead, California hoped that if comparable data could be obtained and disclosed, third party payers would look at them and begin to make health decisions as prudent buyers of health services on behalf of their constituencies based on those data. It is still too early to tell what will happen, since the first year of California's data is just now coming in. But, in any case, it is clear that the Washington hospitals were under the greater pressure since they faced immediate consequences from their reporting results.

In implementing new uniform accounting and reporting systems, it is important to explain fully to the hospital managers how the data can be used for internal management purposes, as well as for external reviews.

* See Diane Rowland, Transition, op. cit.

The California Hospital Association (CHA) developed a budget manual which they intended to be both compatible with the organizational structure of a majority of hospitals and thus give them flexibility to accomodate their internal needs while meeting the broader public needs of uniformity and comparability of data. C.H.A. and the Commission staff are also developing indicators that the hospitals can use to assess their performance. These will show the managers whether they rank high or low in comparison to neighboring hospitals. CHA is also trying to develop management effectiveness programs in parallel, giving the hospitals a fair range of flexibility to make the programs workable.

Any chart of accounts must have a coding system that allows expansion to suit the needs of large hospitals and compression to accomodate the characteristics of small ones. It may be necessary to allow other types of flexibility to the small hospitals, in recognition of their unique needs. Considerable orientation and training is required for successful implementation of the new accounting and reporting systems, and it is perhaps best to separate large and small hospitals when those training sessions are conducted. One should also consider the possibility of having two kinds of sessions, one directed at upper level management to discuss the system conceptually, the other directed at the accountants who will actually have to implement it. In both California and Washington, such training sessions were conducted by the commissions themselves, and by the hospital associations jointly with chapters of the Hospital Financial Management Association. The consulting firms that serve hospitals also need orientation to the new systems, especially the smaller accounting firms. Some sessions should be geared to meet their needs. However, as the project recommends, they should expect to pay for this service.

One must recognize that the administrative costs for implementing uniform accounting and reporting systems are not insignificant. For every dollar you spend, however, there are important returns in terms of the quality of data received from the hospitals. Administrative costs would

not be such a burden on hospitals if with implementation all the external users could agree to use a common report form, as in New York, rather than requiring hospitals to fill out separate forms for Medicare, Medicaid, Blue Cross and hospital commissions.

Probably the most difficult task in developing uniform accounting and reporting systems is to identify appropriate statistical bases on which to allocate costs, and to measure volumes of services. Output measures are the most problematic, as has been noted many times during the course of the foregoing sessions.

In addressing the various recommendations of the project, Dowling agreed that a wide range of potential users should participate in system design and revision, but concurred with Weiner's earlier caveat that setting the goals of the system and reaching final decisions on form and content cannot be delegated, and must be retained by the rate setting body. In short, leadership and final authority must be retained by the agency with central responsibility.

In regard to the project's recommendation on the role of accounting firms in the design and reporting systems, Dowling agreed that while their technical expertise is helpful they should operate under the firm guidance of the regulatory agency. A better model, perhaps, would be for state rate setting bodies to contract with state hospital associations instead of with CPA firms. Dowling noted that most of the firms draw heavily on the hospital associations for technical advice anyway; they just don't pay them for their services. The obvious danger in contracting with hospital associations is that they might skew the design to obscure some of the information the rate setting body might want to obtain. However, if the rate setting method relies on interhospital cost comparisons, the accessing of data that are truly comparable becomes the goal of both regulators and hospitals. Also, the kinds of biases the hospital association can introduce are not necessarily important. For example, the particular service functions that get assigned to dietary versus

housekeeping accounts is not relevant; comparability of such assignments between the dietary and housekeeping departments of the hospitals is the real crux of the matter.

In sum, Dowling urged that we put a little more faith in the hospital associations and recognize that they will and should be involved in the design of uniform accounting and reporting systems.

The project's recommendation that any new reporting system and its forms be pretested is a most important one. In both Washington and California, the pretesting process taught the commission staffs a lot, even though implementation on a voluntary basis was very difficult.

The project left unresolved the question of proper lead time for implementing a new reporting system. It recommended that in-depth evaluation be conducted to show what differences in the quality of reporting, if any, were associated with the marked difference in such lead time in Washington and California. Washington had only six months from the final adoption of the new system to its use by hospitals for programming their next year's budgets. However, Dowling was not sure that the full eighteen months available to California hospitals was necessary. "If hospitals are given a lot of time they will take it, even if they don't need it." However, rate setting bodies should be particularly sensitive to hospital's transitional difficulties if they are given only a short period to prepare for implementation.

The project notes the possibility of staggering submission of hospital reports to avoid overloads on the accounting firms that service hospitals, on editors and data processors, and on analysis staffs. However, during periods of rapid inflation, Dowling worried that such staggered submissions would interfere with the comparability of data. It might be possible to gear the system to a series of quarterly or semi-annual reports, audited only once a year, that would permit more frequent analysis. In his opinion, the need to secure truly comparable data outweighs the need to distribute the data collection and analysis workload.

"The whole point of going to uniform reporting and accounting systems, after all, is to obtain comparable data--so why compromise?" We should be able to look at all hospital performance for the same twelve month period.

Dowling agreed with the project's recommendation that calls for complete external audits during the first three years of a new accounting and reporting system, followed later by limited scope or sample audits. He stressed the need to audit statistical as well as financial data. Auditing is worth every dime, but most organizations usually cut corners on the statistical data. In evaluating the New York rate setting program, Dowling's staff found absurd statistics, despite the relatively high degree of auditing in that state. If, under a uniform accounting and reporting system, the rate setting body is specific in its definitions and data requests and still gets back nonsensical figures, the burden of proof should be on the hospitals. Unless they can explain them, they should be penalized through rate adjustments. This would give the hospitals an incentive to clean up their numbers, and is a better alternative than holding their hospitals' hands and merely correcting their errors.

In closing, Dowling emphasized that a uniform reporting and accounting system is worth implementing only if we were going to secure comparable data to use for some clearly defined purpose. Unless regulators are prepared to state what they are trying to accomplish by using such improved data, it probably isn't worth the considerable cost of implementing such systems.

Cumming stated that while a pretty good consensus can be reached on criteria and guidelines for the development of hospital budgets, one has a hell of a time trying to obtain any sort of consensus on the rate question. Also, "hospitals can supply endless reasons why they must adhere to some weird date they created in the past to determine the start of their fiscal years. But hospital people are so paranoid these days--they must be excused for not acting rationally."

Dowling observed that we haven't talked about the different possible forms of hospital rate setting at this meeting, but that, as previously noted, the choice of method must determine the detailed nature of any hospital reporting system. Cumming felt that approving budgets is much more effective than approving rates; the budget gives you the hospitals' work program related to its projected costs. If you approve a revenue budget and then let the hospital set its own rates in line with that budget you begin to set real limits. Forand strongly agreed, emphasizing that volume controls are essential to any cost containment effort. Following a brief discussion, the committee adjourned for lunch.

AFTERNOON SESSION - May 6th

Katharine Bauer reviewed each committee session as it related to the project recommendations that had been put forth in the background document prepared for the meeting. For the most part, the Advisory Committee agreed with these recommendations as drafted, but a number of additions and deletions were suggested as follows:

- 1) The concept of a minimum Uniform Hospital Cost Data Set to serve the needs of multiple users was endorsed, as was the recommendation that potential users should participate in its initial design and in its subsequent revisions. However, the Committee held that final decisions on form and content cannot be delegated, and must be retained by the agency responsible for administering the rate setting program, or setting its guidelines;
- 2) Two recommendations in the background paper were considered beyond the scope of the project. One concerned the composition of rate setting bodies, another concerned detailed approaches to improving the flow of data among state agencies;

- 3) Despite the fact that hospitals in many states and regions keep their books according to different fiscal years, the Committee felt that in the interest of achieving comparability of data, it was better to recommend that hospitals submit their cost/budget reports according to a common reporting period;
- 4) The final report should take greater note of the rate setting programs operated by Blue Cross plans and by agencies of state government than did the background document. The emphasis there was felt to have been weighted too heavily towards the experience of state rate setting commissions;
- 5) It was agreed that moves toward shared data collection and processing by rate setters, third party payers and other users should be encouraged, in the interest of economical data management. The final report should, however, include the criteria to guide the selection of the data intermediary that were developed at the meeting;
- 6) The final report should place more emphasis on the necessity for monitoring the impact of rate setting programs, and should include a more extensive explanation of the need for population based analyses than was furnished in the background document.

The members of the Advisory Committee were heartily thanked for their participation, and the meeting was adjourned.

APPENDIX C: THE CONFERENCE ON UNIFORM REPORTING FOR
HOSPITAL RATE REVIEWS, JUNE 30 - JULY 1, 1975

APPENDIX C: PARTICIPANTS AT THE CONFERENCE ON UNIFORM
REPORTING FOR HOSPITAL RATE REVIEWS*

(Washington, D.C., June 30 - July 1, 1975)

Francis Baker, Executive Director
Washington State Hospital Commission

Katharine G. Bauer, Principal Associate
Harvard University Center for Community
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Will Bishop, CPA
Director of Financial Management
California Hospital Association

Harold Cohen, Ph.D., Executive Director
Maryland Health Services Cost Review
Commission

Thomas W. Egan, Controller
Nassau Hospital Association

Bernard Forand
Program Management Specialist
Rhode Island Division of Budget

Clifton R. Gaus, Director
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Office of Research and Statistics
Social Security Administration

James Ingram, Vice President
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Robert E. Linde
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Dennis May, Executive Vice President
Connecticut Hospital Association

Andrew Nighswander, Commissioner
Massachusetts Rate Setting Commission

* Participants' titles refer to their organizational affiliations as of the date of the conference.

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John D. Thompson
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Harvey Wolfe, Ph.D.
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CONFERENCE SUMMARY

A sound data system is essential for conducting rate reviews that are equitable to both payers and providers, for adjudicating appeals, and for external monitoring of the rate setting programs themselves. As Ingram reminded the group during his dinner talk, good data are also needed by all parties in the litigation that some forms of rate setting seem to inspire.

A few basic principles govern the design of such a data system:

1. Any basic cost/budget/volume information for rate review must be used in concert with the other types of information required to permit both valid performance comparisons among hospitals and evaluations of effects of rate setting on cost containment and quality of care.

Endogenous hospital variables include measures to show differences among hospitals in respect to patient care that are associated with differences in costs. Wolfe pinpointed some of these:

- number and types of special services offered by the hospital;
- level of specialist training of the physician staff;
- number and types of teaching programs;

Thompson noted others:

- mix of patient classes (diagnostic casemix alone may be misleading).
- volume and mix of resources employed per patient class within parameters of generally accepted medical practice.
- exogenous variables that need to be considered depict differences in the costs of labor and supplies among small geographic areas and differences in state laws and regulations that affect the costs of hospital operations.
- some data on the endogenous variables are already being generated as part of standard reports from hospitals to rate review agencies. Others are currently reported, or are soon to be reported, through uniform hospital discharge abstract systems, licensing surveys, etc., but require special linkage to cost/budget data. Unfortunately, the means to capture still other necessary variables is still under development. (Data systems to supply exogenous variables were not discussed during the conference).

- many of the necessary endogenous and exogenous variables can be taken into systematic account by sophisticated hospital classification systems. Baker and Wolfe illustrated this by the grouping methods used by the Washington Commission and by Blue Cross of Western Pennsylvania.

2. The data system must be designed to advance the particular objectives of each rate review or rate setting system.

Where the goal is to control costs, the particular areas where cost containment payoffs may be expected should be clearly identified, and data generated to allow close monitoring of these particular areas. For example, if excessive length of stay is considered a cause of excess costs, monitoring on this dimension is essential. Forand described how this is being done in Rhode Island, where all hospitals subscribe to PAS. The program adjusts volume projections in budgets in relation to PAS length of stay norms for groups of patients of matched age and diagnosis. Nighswander noted that another means of discouraging excess beds is through assuming certain volume minimums in hospital services when rates are calculated, as in the Massachusetts and New York systems.

If operating inefficiencies in particular hospital departments are thought to be responsible for excess costs, comparisons of performance in the costs centers of different hospitals may reveal out-of-line situations. However, participants noted that such comparisons can only have validity when:

- the accounting and reporting systems of the comparison hospitals are uniform;
- the casemix, case complexity and the mix and use of resources for patient care in the hospitals are comparable;
- the traditional statistical units of measure are refined to more accurately reflect differences in the scope and intensity of hospital outputs.

May urged that until such time as the data are sufficiently improved in these respects to provide a sound basis for comparative analysis, the principal basis of rate review should be analyses that display historical cost trends in the departments of each hospital.

If the rate reviewers' charge is to contain costs without diminishing quality of patient care, some indices of good patient management must be identified and data generated to monitor performance on these indicators. Thompson described a methodology for relating costs, resource utilization and quality by defined classes of patients that suggests one possible answer to this difficult question.

3. The information system must be geared to the particular rate setting process and the payment method employed.

Both the types of data to be used and the level of detail required will vary substantially depending on choices in this area. For example, if prospective rates are set according to a formula that deals only with changes in bottom line per diem costs, as in New York, the level of detail about departmental costs, revenues and activities required for rate setting is minimal. In such cases, however, as Egan's talk illustrated, the hospitals themselves are motivated to develop cost and volume data according to a standard functional classification. They need this to analyze their own comparative performance as a basis for appeals.

Taking the opposite approach to rate setting, where the rate reviewers establish charges based on rates calculated for each cost center as in Maryland and Washington, detailed data reported in strict uniformity must be brought together to describe the costs, revenue and activities of each such center.

4. The reporting system must be designed to be useful both to external reviewers and to hospital managers.*

*Discussion focused primarily on information from cost/budget reports, although it was noted that this general observation also pertains to information from hospital discharge abstracts and other data systems.

The participants agreed that it is perfectly feasible to construct a single system to serve both the needs of hospital managers for reports organized according to responsibility centers and the needs of external reviewers for reports organized according to standard functional cost centers. Linde, Oviatt, Bishop and Baker emphasized that the use of uniform report forms that establish a common classification system are meaningless in the absence of a uniform chart of accounts to establish a common language and common conventions for hospitals to use and follow as they fill out the reports.

Among the states represented at the conference, only California and Washington currently have standard charts of accounts that underlie both their uniform cost reports and budget reports. Rhode Island and Connecticut have a uniform chart of accounts, but it applies only to their cost reports. The budgets follow a standard form but the hospitals fill them out according to the conventions they use to define their own particular responsibility centers. New Jersey, Massachusetts and Maryland lack a uniform chart of accounts for either cost reports or budgets.

Linde explained that the 1975 American Hospital Association chart of accounts is designed to permit the generation of both responsibility center and functional center reports. AHA policy is that every part of the country should develop uniform accounting and reporting systems. The chart is constructed accordingly; it provides a framework and suggested procedures for local action.

In discussing the costs of changing to a double purpose reporting system, Baker estimated that a hospital could expect a one-time expenditure of between \$10,000 and \$50,000, depending on its size and existing computer capability. Over the span of a few years, the dollar savings from better hospital management made possible by the re-

sultant improved internal control system will more than outweigh the initial cost of implementation.

Translation from responsibility to functional center reporting is accomplished through reclassification. Bishop believes that in order to minimize the need for this procedure, most hospitals eventually will redefine many of their responsibility centers to conform to the functional centers specified in the system. This will happen voluntarily, not as a result of any external pressure to conform.

The key to a successful uniform accounting and reporting system designed to serve dual purposes is plentiful coding and recording of detailed transactions at the time they take place.

5. Most statistics employed to measure hospital output are far too crude to serve as useful bases for performance indicators either for internal or external monitoring of efficiency.

None of the new charts of accounts has addressed this problem. They still use the statistics developed in 1954 by AHA.

One measure of progress has been the adoption by the Maryland, California, and Washington systems of relative value scales for radiology and laboratory activity reports. However, these scales need considerable refinement to take account of all the elements of time, materials and skills represented by different types of tests and procedures. Cohen and Wolfe described recent efforts to improve these scales. It was agreed that corresponding relative value scales should be developed for other patient care activities in order to produce meaningful patient manpower ratios. A prime need is to account for the markedly different nursing requirements for patients with differing degrees of illness severity.

Ratios of nurse man-hours per patient day at present take no account of differences in patient care requirements dictated by differences in casemix.

The conference discussions were notable for the absence of disagreement between hospital associations and the rate review participants. Gaus observed that in the area of determining what costs are allowable, tension between rate setting bodies and hospitals is probably inevitable. On the other hand, since both parties have a common interest in an accurate and reliable data system there is no reason why they cannot work together on its design and implementation.

Bishop noted that in reality there will always be two kinds of accounting systems: a system designed for external review and reimbursement will always be different from the system designed by the hospital manager to monitor internal performance. Other regulated industries commonly keep three different sets of books: one for internal management, one for the regulatory agency, and one for IRS purposes. It is well to recognize this fact of life. Any organization will try to maximize its revenue up to the allowed limits, just as businesses and individuals try to minimize their payments to the IRS.

Both hospital spokesmen and rate reviewers acknowledged that they are powerless in attempts to control physician-generated expenditures. Not one of the rate setting states represented at the conference has been able to set controls on the remuneration of pathologists, anesthesiologists, and other hospital-based physicians; California cannot even collect data to show the amounts of remuneration. On the other hand, rate review linkages with state certificate of need and other planning agencies were seen as providing a useful and potentially powerful tool for containing costs stemming from uncontrolled capital expenditures.

Looking beyond the immediate task of hospital rate review, rate setting, and appeals, Thompson stressed the need for analyses of the aggregate costs of the hospital care received by the population of a region in relation to the costs of care through other modalities. If we are serious about containing health care costs, we need to apply principles of financial

epidemiology and not just confine our view to trends in inpatient per diem costs or even costs per case. This becomes especially crucial as the effort to shift patient care to outpatient settings inevitable drives up the unit cost of inpatient services. To begin to develop such a system of health accounts demands that the reporting system of other parts of the health delivery system (OPDs, long-term care facilities, etc.), be designed to be compatible both with each other and with the hospital data system, and that health costs and utilization in an area be related to the population of that area, as the denominator.

Wolfe's review of attempts to develop methods to demonstrate the relation between case complexity and hospital costs made it clear that a great deal more developmental work is needed. In addition, while recognizing the political sensitivity of attempts to relate cost data to patient outcome data, as well as the technical difficulties, he described one such analysis where, for matched patient classes, higher costs of care in teaching hospitals were clearly associated with lower mortality rates.

The implementation of any new data system to undergird hospital rate review demands time, patience and negotiational skills. Baker and Bishop described the years of development effort that lay behind the implementation, first, of a uniform chart of accounts; then a uniform cost report; and, finally, a uniform budget system. They believe that such a phased-in process is essential before a rate setting process based on hospital cost comparisons is attempted.

Perrin questioned the feasibility of a detailed cost and budget reporting system for small hospitals. In California and Washington many of the subclassifications required of large hospitals have been collapsed to accommodate the special characteristics of small hospitals. Bishop observed that county hospitals and chain hospitals, which have to maintain their accounts according to other established systems, have more serious problems.

The meeting demonstrated that rate review bodies are still in an exploratory stage as regards the development of data systems adequate to permit valid comparisons of hospital efficiency. The problems are complex,

but they are being worked on seriously by many intelligent people in many different parts of the country. Hopefully, their experience to date and their work in progress will be used at the federal level in implementing Section 1533(d) of the National Health Planning and Resources Development Act of 1974.

In addition to the need to develop uniform reporting of a wider range of data than is currently available to rate reviewers, Wolfe stressed the need to pay much more attention to the crucial question of how the developing information system should be managed. Too often reporting systems collect masses of data that are never used. During the remainder of Harvard's contract with SSA, various aspects of this problem will be addressed.

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